

225	230	235	240
Asp Pro Ala Thr Val Ala Val Lys Gly Glu Pro Val Arg Phe Leu Arg			
245	250	255	
Ser Tyr Arg Met Pro Asn Lys Pro Leu Ser Met Gly Phe Phe Gln Asn			
260	265	270	
Glu Met Tyr Val Val Cys Ala Asn Asn Arg Ile Val Arg Val Asp Leu			
275	280	285	
Arg Thr Gly Lys Glu Leu Gly Ser Tyr Ser Ser Phe Ala Gly Gly Val			
290	295	300	
Gly Leu Gly Thr Pro Gly Arg Leu Phe Phe His Asn Asp Thr Phe Tyr			
305	310	315	320
Leu Ala Gly Arg Asn Ala Asn Ala Pro Arg Leu Ile Gln Gly Lys Val			
325	330	335	
Met Phe Val Glu Ile Ser Glu Leu Asp			
340	345		

&lt;210&gt; 7016

&lt;211&gt; 237

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7016

Ser Leu Met Ser Thr Asp His Ile Ser Thr His Pro Asp Ser Pro Leu			
1	5	10	15
His Gly Asn Gly Ile Gly Ser Glu Ala Ile Asn Leu Ala Ala Ile Arg			
20	25	30	
Gln Glu Tyr Thr Lys Gly Gly Leu Lys Glu Gly Asp Leu Ser Asp Asn			
35	40	45	
Pro Leu Ser Leu Phe Asn Arg Trp Leu His Glu Ala Ile Asp Ala Gln			
50	55	60	
Val Asp Glu Pro Thr Ala Met Leu Val Gly Thr Val Ser Pro Glu Gly			
65	70	75	80
Gln Pro Ser Thr Arg Thr Val Leu Leu Lys Asp Leu His Asp Gly Lys			
85	90	95	
Phe Ile Phe Tyr Thr Asn Tyr Glu Ser Arg Lys Gly Thr His Leu Ala			
100	105	110	
Lys Asn Pro Tyr Ile Ser Leu Ser Phe Val Trp His Ala Leu Glu Arg			
115	120	125	
Gln Val His Ile Glu Gly Ile Ala Ser Lys Val Pro Ala Gly Glu Ser			
130	135	140	
Asp Thr Tyr Phe Arg Gln Arg Pro Tyr Lys Ser Arg Ile Gly Ala Arg			
145	150	155	160
Ile Ser Pro Gln Ser Arg Pro Leu Lys Ser Arg Met Gln Leu Ile Arg			
165	170	175	
Asn Phe Val Ala Glu Ala Ala Arg Trp Val Gly Arg Glu Val Glu Arg			
180	185	190	
Pro Ala His Trp Gly Gly Tyr Ala Val Thr Pro His Arg Ile Glu Phe			
195	200	205	
Trp Gln Gly Arg Ala Asn Arg Leu His Asp Arg Phe Leu Tyr Ser Leu			
210	215	220	
Gln Pro Asp Gly Ser Trp Gln Lys Glu Arg Leu Ala Pro			
225	230	235	

&lt;210&gt; 7017

&lt;211&gt; 406

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7017

Ile Ile Arg Ser Leu Phe Leu Ile Tyr Cys Leu Ile Lys Phe Ile Phe  
 1 5 10 15  
 Val Phe Leu Ile Pro Gln Asp Met Lys Asn Thr Phe Ile Leu Phe Leu  
 20 25 30  
 Val Ala Leu Ser Phe Val Cys Asn Ser Cys Asn Arg Thr Pro Ser Val  
 35 40 45  
 Glu Glu Pro Asp Val Leu Lys Val Glu Leu Lys Glu Thr Pro Val Ser  
 50 55 60  
 Val Ser Asp Phe Phe Ser Lys Val Glu Val Ile Pro Leu Glu Thr Ser  
 65 70 75 80  
 Asp Ser Cys Leu Leu Ala Arg Ile Leu Arg Val Arg Val Ser Gly Asp  
 85 90 95  
 Thr Thr Tyr Ile Leu Thr Gln Asp Tyr Pro Thr Phe Arg His Ile Thr  
 100 105 110  
 Leu Met Ala Phe Asp Lys Lys Gly Asn Tyr Leu Arg Ser Ile Gly Arg  
 115 120 125  
 Val Gly Gln Gly Pro Gly Glu Tyr Ser Gln Val Tyr Asp Ala Val Ile  
 130 135 140  
 Ser Glu Gln Arg Asn Arg Val Tyr Met Leu Ser Pro Phe Gly Ser Met  
 145 150 155 160  
 Tyr Thr Tyr Arg Leu Asp Gly Ser Phe Ile Asp Arg Lys Ile Leu Pro  
 165 170 175  
 Gln Lys Met Asn Phe Gln Glu Ile Gly Leu Thr Pro Asp Gly Asp Leu  
 180 185 190  
 Leu Thr Trp Ser Ala Gln Asn Lys Asp Asp Gly Ala Cys Ile Met Arg  
 195 200 205  
 Leu Asp Ala Asp Ser Ala Lys Leu Ile Asn Glu Phe Trp Ser Asp Asp  
 210 215 220  
 Phe Trp Leu Asn Trp Ala Cys Arg Asp Met Phe Tyr Ser Tyr Gln Gly  
 225 230 235 240  
 Lys Ala Tyr Phe Ala Pro Ala Phe Tyr Glu Glu Val Tyr Glu Leu Thr  
 245 250 255  
 Ser Asp Ser Phe Arg Val Ala Tyr Arg Trp Asp Met Gly Glu Gln Asn  
 260 265 270  
 Ile Asn Ile Ala Gln Tyr His Phe Asn Ser Asn Pro Asp Thr Arg Arg  
 275 280 285  
 Glu Glu Asp Arg Arg Leu Asn Glu Tyr Arg Glu Thr Gly Lys Ile Ala  
 290 295 300  
 Phe Asn Phe Thr Asn Gln Tyr Gln Asn Gly Lys Tyr Tyr Tyr Ala Gln  
 305 310 315 320  
 Leu Leu Ser Leu Ala Ser Lys Pro Lys Trp Lys Tyr Thr Asn Leu Phe  
 325 330 335  
 Tyr Arg Lys Lys Asp Gly Ala Val Phe Tyr Phe Glu Lys Thr Arg Glu  
 340 345 350  
 Gly Ile Arg Ile Asp Pro Glu Val Leu Thr Glu Asp Phe Met Leu Cys  
 355 360 365  
 Ile Val Pro Thr Glu Glu Leu Glu Asn Tyr Lys Ser Ile Leu Pro Glu  
 370 375 380  
 Glu Glu Tyr Arg Val Leu Ser Lys Arg Val Glu Asp Asp Asn Pro Cys  
 385 390 395 400  
 Val Val Lys Phe Tyr Phe  
 405

&lt;210&gt; 7018

&lt;211&gt; 215

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7018

Leu Lys Met Phe Lys Tyr Leu Lys Gly Phe Trp Arg Tyr Leu Leu Arg  
 1 5 10 15  
 Lys Arg Val Ser Ser Leu Ser Leu Ile Asp Asp Leu Ser Thr Ile His  
 20 25 30  
 Pro Thr Ala Arg Val Tyr Ser Gly Cys Arg Ile Ile Gln Ser Asp Ile  
 35 40 45  
 Gly Ala Tyr Ser Tyr Val Gly Tyr Gly Ser Ile Leu Val Asn Val Ala  
 50 55 60  
 Val Gly Lys Phe Cys Ser Ile Ala Gly Asp Val Glu Ile Gly Leu Ala  
 65 70 75 80  
 Thr His Arg Met Asp Ala Ile Ser Thr Ser Pro Leu Phe Tyr Ser Ser  
 85 90 95  
 Asn Asn Ala Leu Gly Ile Ser Trp Thr Ser Tyr Ser Tyr Phe Asp Asp  
 100 105 110  
 Ser His Lys Pro Val Ser Ile Gly His Asp Val Trp Ile Gly Thr Arg  
 115 120 125  
 Val Val Ile Met Gly Gly Val Lys Ile Gly Asp Gly Ala Val Ile Gly  
 130 135 140  
 Ala Cys Ala Val Val Thr Arg Asp Ile Pro Pro Tyr Ala Ile Cys Val  
 145 150 155 160  
 Gly Ile Pro Ala Lys Val Ile Arg Tyr Arg Phe Pro Arg Glu Thr Ile  
 165 170 175  
 Asp Val Leu Glu His Ala Glu Trp Trp Asn Trp Ser Glu Val Leu Leu  
 180 185 190  
 Lys Glu Asn Ile Glu Asn Phe Asn Gly Ser Asp Thr Leu Phe Phe Asn  
 195 200 205  
 Arg Ile Pro Leu Lys Gln Lys  
 210 215

&lt;210&gt; 7019

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7019

Ile His Pro Pro Met Ile Leu Asp Tyr Ile Tyr His Ser Gly Phe Ala  
 1 5 10 15  
 Ile Glu Ala Glu Gly Val Thr Leu Ile Ile Asp Tyr Tyr Lys Asp Ser  
 20 25 30  
 Ser Glu Thr Glu Leu Asn Lys Gly Ile Val His Asp Arg Leu Leu Gln  
 35 40 45  
 Arg Pro Gly Lys Leu Tyr Val Leu Ala Ser His Phe His Pro Asp His  
 50 55 60  
 Phe Asn Arg Glu Val Leu Thr Trp Lys Glu Gln Arg Pro Asp Ile Ile  
 65 70 75 80  
 Tyr Ile Phe Ser Lys Asp Ile Leu Lys His His Arg Ala Gln Lys Glu  
 85 90 95  
 Asp Ala Ile Tyr Ile Asn Lys Gly Glu Tyr Glu Asp Asp Met Leu  
 100 105 110  
 Arg Ile Gln Ala Phe Gly Ser Thr Asp Val Gly Ile Ser Phe Leu Ile  
 115 120 125  
 His Leu Gln Gly Lys Ser Ile Phe His Ala Gly Asp Leu Asn Asn Trp  
 130 135 140  
 His Trp Ser Glu Glu Ser Thr Glu Gln Glu Ile Arg Lys Ala Glu Gly  
 145 150 155 160  
 Asp Phe Leu Ala Glu Ile Lys Tyr Leu Gln Ala Ala Val Pro Thr Ile  
 165 170 175  
 Asp Leu Val Met Phe Pro Val Asp Arg Arg Met Gly Lys Asp Tyr Met  
 180 185 190

Lys Gly Ala Gln Gln Phe Ile Glu Arg Ile Lys Thr Thr Ile Phe Val  
 195 200 205  
 Pro Met His Phe Ser Glu Asp Tyr Glu Gly Gly Asn Ala Phe Arg Ser  
 210 215 220  
 Ile Ala Glu Ala Gly Gly Cys Arg Phe Ile Thr Ile Thr His Arg Gly  
 225 230 235 240  
 Glu Ser Phe Asp Ile  
 245

&lt;210&gt; 7020

&lt;211&gt; 363

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7020

Ile Lys His Thr Ile Met Asn Lys Leu Thr Gln Ile Phe Leu Val Leu  
 1 5 10 15  
 Phe Met Ile Cys Leu Pro Val Thr Leu Trp Ala Asp Asn Asp Lys Asp  
 20 . 25 30  
 Asp Asp Asp Ser Arg Tyr Leu Ala Gly Ala Val Pro Glu Val Asp Gly  
 35 40 45  
 Arg Val Val Phe Ser Arg Glu Phe Ser Ile Pro Gly Met Ser Gln Asp  
 50 55 60  
 Glu Ile Tyr Glu Arg Met Leu Lys Trp Leu Asp Gly Arg Met Ala Gln  
 65 70 75 80  
 Asn Lys Asn Asn Ser Arg Val Val Tyr Lys Glu Lys Gly Val Ile Ala  
 85 90 95  
 Ala Ala Gly Glu Glu Trp Leu Val Phe Ser Ser Thr Ala Leu Ser Leu  
 100 105 110  
 Asp Arg Thr Trp Leu Thr Tyr Gln Val Thr Val Asn Cys Gln Pro Gln  
 115 120 125  
 Lys Cys Thr Met Glu Val Glu Lys Ile Arg Tyr Thr Tyr Arg Glu Lys  
 130 135 140  
 Glu Lys Tyr Ala Ala Glu Glu Trp Ile Thr Asp Lys Tyr Ala Leu Asn  
 145 150 155 160  
 Lys Ala Lys Thr Lys Met Val Arg Gly Leu Ala Lys Trp Arg Arg Lys  
 165 170 175  
 Thr Val Asn Phe Ala Asp Asn Leu Phe Glu Glu Ala Ala Lys Ala Leu  
 180 185 190  
 Ser Gln Lys Pro Met Glu Ala Lys Ala Glu Ala Thr Pro Lys Lys Pro  
 195 200 205  
 Ala Val Val Thr Ala Pro Lys Val Val Val Ile Gly Asp Asn Gln Glu  
 210 215 220  
 Thr Gly Lys Val Glu Lys Ala Ala Glu Leu Thr Pro Ala Ile Pro Val  
 225 230 235 240  
 Ile Ser Pro Ser Thr Met Pro Gly Tyr Lys Glu Val Ala Pro Asp Gln  
 245 250 255  
 Val Pro Ala Asn Ala Ile Gln Met Gly Ala Gly Arg Leu Val Ile Ala  
 260 265 270  
 Ile Gly Ser Asp Pro Phe Asn Met Thr Met Met Thr Ala Asn Ala Gly  
 275 280 285  
 Gly Ser Ile Gly Lys Ile Ser Gly Ser Pro Val Val Phe Ser Ile Leu  
 290 295 300  
 Ser Pro Asp Gln Pro Tyr Glu Gln Leu Glu Lys Ala Glu Thr Tyr Ser  
 305 310 315 320  
 Ile Arg Phe Tyr Pro Thr Gly Gln Lys Glu Pro Ser Val Ile Leu Glu  
 325 330 335  
 Cys Gln Lys Leu Pro Ala Pro Thr Pro Met Glu Gly Gln Pro Arg Thr  
 340 345 350

Tyr Ala Gly Lys Ile Thr Lys Ala Phe Met Lys  
 355                           360

<210> 7021

<211> 182

<212> PRT

<213> B.fragilis

<400> 7021

Pro Phe Ser Thr Asp Val Met Lys Lys Thr Phe Leu Met Leu Leu Thr  
 1                 5                   10                   15  
 Leu Val Leu Ser Leu Leu Thr Cys Val Ser Cys Ser Glu Glu Thr Leu  
 20                 25                   30  
 Asp Tyr Asn Asn Pro Asp Val Asp Leu Phe Val Arg Gln Leu Lys Ala  
 35                 40                   45  
 Gly Asn Tyr Asn Thr Lys Ser Pro Lys Gly Phe Val Glu Val Pro Lys  
 50                 55                   60  
 Phe Thr Glu Lys Asp Ile Pro Thr Leu Leu Asn Tyr Ala Glu Asp Leu  
 65                 70                   75                   80  
 Thr Leu Ile Thr Ser Phe Pro Leu Pro Pro Val Ser Ala Tyr Tyr Ser  
 85                 90                   95  
 Gly Lys Val Arg Leu Gly Glu Cys Met Leu Trp Val Val Glu Thr Ile  
 100                 105                   110  
 Arg Leu Gly His Tyr Ala Ser Phe Gly Cys Lys Met Val Arg Ala Asn  
 115                 120                   125  
 Ala Glu Asn Tyr Glu Gly Ile Tyr Phe Leu Thr Asp Glu Glu Leu Leu  
 130                 135                   140  
 Asp Ala Ala Ala Arg Tyr Arg Arg Trp Trp Glu Asn Arg Gln Tyr Pro  
 145                 150                   155                   160  
 Arg Thr Ala Trp Thr Ile Asp Ala Cys Phe Asp Glu Pro Leu Cys Gly  
 165                 170                   175  
 Ser Gly Tyr Arg Trp Trp  
 180

<210> 7022

<211> 60

<212> PRT

<213> B.fragilis

<400> 7022

Asn Ala Leu Thr Met Leu Ile Glu Glu Arg Tyr Lys Asp Glu Asp Thr  
 1                 5                   10                   15  
 Gly Ser Asp Gly Val Asn Ser Leu Pro Lys Leu Glu Leu Ser Tyr Ser  
 20                 25                   30  
 Ala Gly Val Cys Phe Phe Leu Ser Lys Gln Ala Lys Arg Thr Ile Ile  
 35                 40                   45  
 Asn Leu Glu Ile Lys Asn Leu Pro Pro Asn Leu Ile  
 50                 55                   60

<210> 7023

<211> 157

<212> PRT

<213> B.fragilis

<400> 7023

Met Lys Thr Thr Leu Ile Val Val Gly Arg Thr Val Glu Gln His Tyr  
 1                 5                   10                   15  
 Ile Thr Ala Ile Asn Asp Tyr Ile Glu Arg Thr Lys His Phe Ile Ser  
 20                 25                   30

Phe Asp Met Glu Val Ile Pro Glu Leu Lys Asn Thr Lys Ser Leu Thr  
     35                40                45  
 Pro Glu Gln Gln Lys Glu Lys Glu Gly Glu Leu Ile Ala Lys Ala Leu  
     50                55                60  
 Gln Pro Gly Asp Val Val Val Leu Leu Asp Glu His Gly Lys Glu Met  
     65                70                75                80  
 Arg Ser Val Glu Phe Ala Arg Trp Met Glu Lys Lys Leu Val Asn Val  
     85                90                95  
 Asn Lys Arg Leu Val Phe Ile Ile Gly Gly Pro Tyr Gly Phe Ser Gln  
     100               105               110  
 Lys Val Tyr Asp Ala Ala His Glu Lys Ile Ser Met Ser Lys Met Thr  
     115               120               125  
 Phe Ser His Gln Met Ile Arg Leu Ile Phe Val Glu Gln Ile Tyr Arg  
     130               135               140  
 Ala Met Thr Ile Leu Asn Gly Gly Pro Tyr His His Glu  
     145               150               155

&lt;210&gt; 7024

&lt;211&gt; 961

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7024

Thr Leu Pro Ala Ser Val Ala Glu Ala Tyr Ile Pro Trp Arg Arg Arg  
     1                5                10                15  
 Asp Ala Asn Pro Glu Gln Lys Gly Ile Ile Val Ile Asn Ala Ser Thr  
     20               25               30  
 Gly Lys Ala Val Asp Asn Val Leu Pro Val Glu Ile Asn Arg Glu Tyr  
     35               40               45  
 Gly Arg Ile Arg Phe Asp Ala Ser Gly Asn Ala Gly Asp Tyr Tyr Val  
     50               55               60  
 Tyr Tyr Leu Pro Tyr His Thr Ser Gly Gly Pro Tyr Pro Lys Val Asn  
     65               70               75               80  
 Tyr Pro Gln Gln Pro Asp Lys Ala Asp Pro Gln Trp Lys Ala Thr Cys  
     85               90               95  
 Lys Ala Thr Pro Ala Gly Lys Ala Val Gln Ala Lys Leu Val Arg Phe  
     100              105              110  
 Glu Ser Leu Gly Ser Phe Asn Ser Phe Tyr Pro Met Glu Ile Ile Ala  
     115              120              125  
 Thr Ala Gln Glu Lys Gln Ala Leu Ile Asp Ala Asn Ser Asn Lys Pro  
     130              135              140  
 Phe Leu Leu Leu Pro Glu Asp Arg Lys Tyr Pro Ile Arg Met Phe Asp  
     145              150              155              160  
 Asp Leu Ser Tyr Arg Gln Val Thr Gln Gly Ala Thr Gly Glu Phe Phe  
     165              170              175  
 Gly Glu Ala Asp Leu Asn Glu Tyr Tyr Val Leu Gln Leu Gly Leu Trp  
     180              185              190  
 Ala Phe Lys Asn Pro Val Asn Gly Val Lys Val Thr Phe Thr Asp Leu  
     195              200              205  
 Lys Gly Lys Asn Glu Ser Ile Pro Ala Ser Ala Leu Thr Cys Phe Asn  
     210              215              220  
 Thr Glu Gly Thr Asp Trp Leu Gly Arg Pro Ile His Pro Glu Val Asn  
     225              230              235              240  
 Val Gly Lys Gly Arg Val Gln Pro Leu Trp Ile Gly Ile Gln Met Pro  
     245              250              255  
 Glu His Ala Gly Arg Gly Ile Tyr Arg Gly Thr Val Thr Val Ser Asp  
     260              265              270  
 Leu Ser Gly Ala Ser Gln Glu Val Asn Ile Ala Ile Asn Leu Ser Asp  
     275              280              285

Asn Val Leu Val Asp Lys Gly Asp Gly Asp Leu Trp Arg Leu Ser Arg  
 290 295 300  
 Leu Arg Trp Leu Asn Ser Gln Tyr Ala Val Asn Asn Arg Pro Val Lys  
 305 310 315 320  
 Pro Phe Ile Pro Ile Lys Val Ala Asp Arg Thr Ile Ser Val Leu Gly  
 325 330 335  
 Arg Ser Val Thr Ala Gly Glu Leu Gly Leu Pro Ala Ser Ile Arg Ser  
 340 345 350  
 Tyr Phe Thr Glu Glu Met Thr Ser Ile Gly Lys Glu Pro Lys Asp Ile  
 355 360 365  
 Leu Ser Gln Pro Met Glu Phe Val Ile Arg Gln Asn Gly Lys Pro Leu  
 370 375 380  
 Pro Val Thr Ile Thr Ser Pro Leu Lys Phe Gly Lys Lys Glu Asp Gly  
 385 390 395 400  
 Thr Val Ser Trp Thr Ala Thr Gly Lys Ala Gly Ala Leu Asp Leu Thr  
 405 410 415  
 Val Leu Ala Ser Met Glu Phe Asp Gly Phe Met Asn Tyr Gln Ile Lys  
 420 425 430  
 Val Lys Ala Ala Glu Asn Thr Ser Val Asp Asp Ile Ala Leu Leu Thr  
 435 440 445  
 Ser Met Pro Ala Thr Thr Ala Lys Tyr Arg Leu Gly Met Gly Tyr Glu  
 450 455 460  
 Gly Ser Leu Arg Pro Lys Ser Asp Gln Trp Lys Trp Asn Val Glu Gln  
 465 470 475 480  
 Asn Gln Glu Gly Phe Trp Phe Gly Asp Val Asn Ala Gly Met Gln Cys  
 485 490 495  
 Leu Phe Arg Ala Glu Asn Tyr Arg Arg Pro Leu Asn Thr Asn Phe Tyr  
 500 505 510  
 Lys Met Gln Pro Leu Asn Met Pro Pro Ser Trp Phe Asn Asp Gly Lys  
 515 520 525  
 Gly Gly Ile Ser Tyr Lys Glu Lys Gly Asn Gln Val Asp Ile Lys Thr  
 530 535 540  
 Tyr Ser Gly Ser Arg Thr Leu Gln Lys Gly Glu Glu Leu Asn Phe Asp  
 545 550 555 560  
 Phe Leu Val Leu Val Thr Pro Phe Lys Pro Ile Asp Thr Met Lys Gln  
 565 570 575  
 Trp Thr Asp Arg Tyr Tyr His Gly Tyr Gln Pro Ala Glu Lys Leu Lys  
 580 585 590  
 Glu Gly Asp Ala His Ala Tyr Gln Ala Val Asp Val Val Gly Glu Thr  
 595 600 605  
 Gly Ala Asn Val Ile Asn Leu His His Gly Asn Ala Val Asn Pro His  
 610 615 620  
 Ile Asn Tyr Pro Phe Phe Arg Pro Ala Phe Met Lys Gln Tyr Val Asp  
 625 630 635 640  
 Glu Ser His Ala Lys Gly Tyr Lys Val Lys Ile Tyr Tyr Thr Val Arg  
 645 650 655  
 Glu Leu Thr Asn His Ala Pro Glu Leu Phe Ala Leu Lys Ser Leu Gly  
 660 665 670  
 His Glu Ile Phe Ser Pro Gly Lys Gly Gly Tyr Ala Trp Leu Gln  
 675 680 685  
 Glu His Leu Asp Gly Asp Tyr Ile Gly Ala Trp Phe Val Asp Ala Tyr  
 690 695 700  
 Lys Asp Ala Ala Ile Val Asn Thr Gly Ile Ser Arg Trp His Asn Phe  
 705 710 715 720  
 Tyr Val Glu Gly Leu Asn Trp Leu Thr Lys Asn Val Gly Ile Asp Gly  
 725 730 735  
 Val Tyr Ile Asp Asp Leu Ala Phe Asp Arg Asn Thr Met Lys Arg Ile  
 740 745 750  
 Arg Arg Val Leu Glu Ser Asn Arg Pro Asp Pro Arg Ile Asp Val His

755	760	765
Ser Ala Asn Gln Phe Asn Pro	Ala Asp Gly Tyr	Ile Asn Ser Ile Phe
770	775	780
Leu Tyr Met Glu His Met Pro	Tyr Leu Asp Arg	Leu Trp Phe Gly Glu
785	790	795
Tyr Phe Lys Tyr Glu Lys Ser	Pro Glu Tyr Trp	Leu Thr Asp Val Ser
805	810	815
Gly Ile Pro Phe Gly Met Met	Ser Glu Met	Leu Gln Asp Gly Gly Asn
820	825	830
Pro Tyr Arg Gly Met Leu Tyr	Gly Met Thr Ala Arg	Glu Pro Met Glu
835	840	845
Ser Ile Pro Ser Gln Leu Trp	Lys Val Trp Asp	Ala Phe Gly Ile Lys
850	855	860
Asp Ser Arg Met Met Gly	Tyr Trp Val Ser	Tyr Asn Pro Val Lys Thr
865	870	875
Gly Arg Asn Asp Ile Leu Ala	Thr Ser Phe Val	Lys Asp Gly Lys Val
885	890	895
Met Ile Ala Ile Ala Ser Trp	Ala Lys Lys Asp	Ser Asp Ile Lys Leu
900	905	910
Gln Ile Asp Trp Glu Lys Leu	Gly Ile Asp Ala Asp	Lys Ala Arg Leu
915	920	925
Thr Ala Pro Asp Ile Lys	Gly Phe Gln Glu	Gly Phe Ser Leu Ser Pro
930	935	940
Lys Asp Lys Ile Lys Val	Pro Lys Asp Lys	Gly Phe Ile Phe Ile Leu
945	950	955
Glu		960

<210> 7025

<211> 198

<212> PRT

<213> B.fragilis

<400> 7025

Thr Asn Asp Ala Asp Ile Arg Ser	Ile Leu Lys Arg Gln	Leu Thr Leu
1	5	10
Glu Asn Glu Ile Glu Leu Ile Lys	Gly Cys Arg Ala Gly	Lys Asp Ser
20	25	30
Ala Arg Lys Glu Leu Tyr Thr	Leu Tyr Ser Arg Gln	Met Leu Ala Val
35	40	45
Cys Phe Arg Tyr Thr Gly Asp Met	Glu Ala Ala His	Asp Val Leu His
50	55	60
Asp Gly Phe Ile Lys Ile Phe Thr	Asn Phe Ser Phe	Arg Gly Glu Ala
65	70	75
Ser Leu Gly Thr Trp Val Thr	Arg Val Met Val	Thr Gln Ala Leu Asp
85	90	95
Tyr Leu Arg Arg Gln Lys Arg	Val Ser Gln Leu	Glu Val His Glu Glu
100	105	110
Gln Leu Pro Asp Ile Pro Asp	Leu Pro Glu Gly	Gly Glu Ala Gly Arg
115	120	125
Ile Ser Glu Glu Gln Leu Met	Lys Phe Val Ala Asp	Leu Pro Asp Gly
130	135	140
Cys Arg Thr Val Phe Asn Leu	Tyr Val Phe Glu	Glu Lys Ser His Lys
145	150	155
Glu Ile Ala Asp Met Leu	Gly Ile Lys Glu	His Ser Ser Thr Ser Gln
165	170	175
Leu His Arg Ala Lys Phe Leu	Leu Ala Lys Arg	Ile Lys Glu Tyr Arg
180	185	190
Asn His Glu Glu Arg Lys		

195

<210> 7026  
<211> 195  
<212> PRT  
<213> B.*fragilis*

<400> 7026

<210> 7027

<211> 161

<212> PRT

<213> B.*fragilis*

<400> 7027

Phe	Gln	Asn	Tyr	Met	Asn	Gln	Val	Gln	Asn	Leu	Gln	His	Ile	Ala	Arg
1				5				10						15	
Glu	Leu	Leu	Tyr	Leu	Gly	Met	Asp	Gly	Ser	Pro	Ile	Tyr	Thr	Asp	His
				20				25					30		
Phe	Arg	Gln	Leu	Asn	Thr	Glu	Val	Phe	Arg	Leu	Ser	Glu	Ala	Leu	Phe
				35			40					45			
Ser	Met	Lys	Gly	Ala	Thr	Ser	Glu	Glu	Glu	Ala	Ala	Ile	Cys	Leu	Ser
				50			55				60				
Leu	Leu	Met	Gly	Tyr	Asn	Ala	Thr	Ile	Tyr	Asn	Asp	Gly	Asp	Lys	Glu
				65			70			75			80		
Ser	Lys	Ile	Gln	Ser	Ile	Leu	Asp	Arg	Ser	Phe	Ala	Val	Leu	Asp	His
					85				90				95		
Leu	Pro	Ala	Ser	Leu	Leu	Lys	Cys	Gln	Leu	Leu	Thr	Tyr	Cys	Tyr	Gly
					100				105				110		
Glu	Val	Phe	Glu	Glu	Asp	Leu	Ala	Gln	Glu	Ala	His	Gln	Ile	Met	Asp
					115			120				125			
Ser	Trp	Lys	Asn	Arg	Ala	Leu	Ser	Glu	Glu	Glu	Leu	Glu	Val	Met	Glu
					130			135				140			

Thr Leu Gln Thr Met Glu Asp Asn Arg Tyr Pro Cys Ser Glu Val Glu  
 145 150 155 160  
 Asp

<210> 7028  
 <211> 60  
 <212> PRT  
 <213> B.fragilis

<400> 7028  
 Thr Cys Lys Tyr Phe Glu Lys Lys Cys Phe Ile Lys Ile Val Phe Asp  
 1 5 10 15  
 Lys Ser Asp Ser Leu Phe Thr Phe Ala Asn Gln Leu Ile Ile Gly Lys  
 20 25 30  
 Tyr Glu Glu Lys Leu Phe Leu Cys Arg Trp Ser Val Ile Ala Ser Leu  
 35 40 45  
 Gly Tyr Gly Ser Met Phe Arg Thr Arg Lys Ser Gly  
 50 55 60

<210> 7029  
 <211> 112  
 <212> PRT  
 <213> B.fragilis

<400> 7029  
 Leu Phe Cys Leu Leu Arg Val Val Val Glu Glu Lys Leu Asn Asp Met  
 1 5 10 15  
 Glu Thr Val Thr Asp Thr Glu Ser Ser Ser Pro Asp Asp Cys Ala  
 20 25 30  
 Lys Thr Pro Glu Arg Leu Gly Ala Gly Leu Pro Lys Thr Gly Ser Glu  
 35 40 45  
 Arg Ile Gly Val Lys Ser Cys Phe Thr Thr Ser Pro Ser Arg Cys Val  
 50 55 60  
 Val Phe Pro Leu Thr Thr Ala Thr Trp Val Lys Ala Ser Ser Ile Ser  
 65 70 75 80  
 Ala Phe Gly Glu Lys Asn Gln Lys Ala Ala Asp Glu Ala Ala Asn Thr  
 85 90 95  
 Ser Ser Thr Glu Ala Ala Ala Ala Thr Arg Lys Lys Thr Thr Phe Arg  
 100 105 110

<210> 7030  
 <211> 172  
 <212> PRT  
 <213> B.fragilis

<400> 7030  
 Met Ser Glu Gln Gln Glu Tyr Trp Phe Ala Ala Arg Thr Lys Lys Asp  
 1 5 10 15  
 Gln Glu Phe Ser Val Arg Asn Ala Leu Glu Lys Leu Gly Ile Glu Tyr  
 20 25 30  
 Phe Leu Pro Thr Gln Phe Val Ile Arg Gln Leu Lys Tyr Arg Arg Arg  
 35 40 45  
 Arg Val Glu Val Pro Val Ile Lys Asn Leu Ile Phe Val Arg Thr Thr  
 50 55 60  
 Lys Asp Arg Ala Trp Ser Ile Thr Lys Asp Asp His Val Pro Leu Tyr  
 65 70 75 80  
 Tyr Met Lys Asp Leu Tyr Thr His Thr Leu Leu Ile Val Pro Asn Lys  
 85 90 95

Gln Met Glu Asp Phe Val Met Asp Leu Ala Pro Glu Asn Val  
     100               105               110  
 Thr Phe Asp Asp Leu Pro Leu Thr Val Gly Thr Lys Val Gln Val Val  
     115               120               125  
 Lys Gly Glu Phe Cys Gly Ile Glu Gly Glu Leu Ser Ser Leu Ala Asn  
     130               135               140  
 Arg Thr Tyr Val Val Ile Arg Ile His Gly Val Leu Ser Ala Ser Val  
     145               150               155               160  
 Lys Val Pro Lys Ser Tyr Leu Arg Ile Leu Ser Ala  
     165               170

&lt;210&gt; 7031

&lt;211&gt; 434

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7031

Ile Ile Asn Lys Asn Lys Met Asn Met Glu Glu Ile Arg Ile Ala Val  
     1               5               10               15  
 Ile Gly Leu Gly Tyr Val Gly Leu Pro Leu Ala Arg Leu Phe Ser Thr  
     20               25               30  
 Lys Phe Lys Thr Val Gly Phe Asp Met Asn Lys Ser Arg Val Asp Ser  
     35               40               45  
 Ile Met Lys Gly His Asp Ala Thr Leu Glu Val Ser Asp Ser Leu Leu  
     50               55               60  
 Gln Asp Ala Ile Thr Asn Asn His Phe Met Cys Ser Asn Glu Leu Ser  
     65               70               75               80  
 Ile Ile Lys Asn Cys Asn Phe Tyr Ile Val Ala Val Pro Thr Pro Val  
     85               90               95  
 Asp Leu Asp Asn Arg Pro Asp Leu Arg Pro Leu Leu Ser Ala Ser Glu  
     100              105              110  
 Thr Val Gly Lys Val Ile Ser Lys Gly Asp Ile Val Val Tyr Glu Ser  
     115              120              125  
 Thr Val Tyr Pro Gly Val Thr Glu Glu Glu Cys Ile Pro Leu Ile Glu  
     130              135              140  
 Lys Val Ser Gly Leu Lys Phe Asn Glu Asp Phe Phe Ala Gly Tyr Ser  
     145              150              155              160  
 Pro Glu Arg Ile Asn Pro Gly Asp Lys Glu His Thr Val Glu Lys Ile  
     165              170              175  
 Ile Lys Val Thr Ser Gly Ser Thr Pro Glu Ile Ala Glu Ile Ile Asp  
     180              185              190  
 Arg Val Tyr Asn Lys Val Leu Val Asn Gly Thr His Lys Ala Pro Ser  
     195              200              205  
 Ile Lys Val Ala Glu Ala Ser Lys Ile Ile Glu Asn Ser Gln Arg Asp  
     210              215              220  
 Val Asn Ile Ala Phe Met Asn Glu Leu Ala Lys Ile Phe Asn Ala Met  
     225              230              235              240  
 Gly Ile Asp Thr Asn Asp Val Ile Ala Ala Ala Ser Ser Lys Trp Asn  
     245              250              255  
 Phe Ile Lys Leu Arg Pro Gly Leu Val Gly Gly His Cys Ile Ser Val  
     260              265              270  
 Asp Pro Tyr Tyr Leu Ile Gln Lys Ala Gln Val Tyr Gly Ile Phe Pro  
     275              280              285  
 Arg Ile Met Ser Ala Ala Arg Arg Leu Asn Asp Gly Met Gly Asp Tyr  
     290              295              300  
 Ile Ala Asn Gln Val Ile Gln Leu Met Asn Lys Lys Gly Ile Leu Val  
     305              310              315              320  
 Lys Asp Ala His Ile Leu Ile Leu Gly Val Thr Phe Lys Glu Asn Cys  
     325              330              335

Pro Asp Ile Arg Asn Thr Lys Ile Val Asp Ile Tyr Ser Val Leu Ser  
     340                 345                 350  
 Glu Tyr Thr Ser Asn Ile Lys Val Tyr Asp Pro Trp Val Asn Gln Ser  
     355                 360                 365  
 Lys Ile Lys Glu Glu Tyr Gly Ile Asn Val Ile Asn Glu Asp Leu Lys  
     370                 375                 380  
 Asn Leu Glu Gly Lys Phe Asp Val Ile Ile Leu Gly Val Ala His Asp  
     385                 390                 395                 400  
 Cys Phe Lys Asn Ile Gln Val Asn Asp Leu Leu Lys Lys Glu Tyr Gly  
     405                 410                 415  
 Val Val Tyr Asp Val Lys Gly Val Leu Asp Arg Asn Ile Val Asp Gly  
     420                 425                 430  
 Arg Leu

<210> 7032

<211> 342

<212> PRT

<213> B.fragilis

<400> 7032

Asn Val Asn Lys Lys Ile Met Ala Tyr Thr Ile Ala Phe Phe Gly Thr  
 1                 5                 10                 15  
 Lys Pro Tyr Asp Glu Ala Ser Phe Asn Glu Lys Asn Lys Glu Phe Gly  
     20                 25                 30  
 Phe Glu Leu Arg Phe Phe Lys Gly His Leu Asn Arg His Asn Val Leu  
     35                 40                 45  
 Leu Thr Gln Gly Val Asp Ala Val Cys Ile Phe Val Asn Asp Thr Ala  
     50                 55                 60  
 Asp Ala Glu Val Ile Arg Thr Met Ala Thr Asn Gly Val Lys Leu Leu  
     65                 70                 75                 80  
 Ala Leu Arg Cys Ala Gly Tyr Asn Asn Val Asp Leu Lys Ala Ala Ala  
     85                 90                 95  
 Glu Asn Gly Val Thr Val Val Arg Val Pro Ala Tyr Ser Pro Tyr Ala  
     100                 105                 110  
 Val Ala Glu Tyr Thr Val Ala Leu Met Leu Ser Leu Asn Arg Lys Ile  
     115                 120                 125  
 Pro Arg Ala Ser Trp Arg Thr Arg Asp Gly Asn Phe Ser Leu His Gly  
     130                 135                 140  
 Leu Leu Gly Phe Asp Met His Gly Lys Thr Ala Gly Ile Ile Gly Thr  
     145                 150                 155                 160  
 Gly Lys Ile Ala Lys Ile Leu Ile His Ile Leu Lys Gly Phe Gly Met  
     165                 170                 175  
 Asn Ile Leu Ala Tyr Asp Leu Tyr Pro Asp Tyr Asn Phe Ala Arg Glu  
     180                 185                 190  
 Asn Gln Ile Val Tyr Thr Thr Leu Asp Glu Leu Tyr His Ser Ser Asp  
     195                 200                 205  
 Ile Ile Ser Leu His Cys Pro Leu Thr Glu Gln Thr Lys Tyr Leu Ile  
     210                 215                 220  
 Asn Asp Tyr Ser Ile Ser Lys Met Lys Asp Gly Val Met Ile Ile Asn  
     225                 230                 235                 240  
 Thr Gly Arg Gly Gln Leu Ile His Thr Asn Ala Leu Ile Glu Gly Leu  
     245                 250                 255  
 Lys Asn Lys Lys Ile Gly Ser Ala Gly Leu Asp Val Tyr Glu Glu Glu  
     260                 265                 270  
 Ser Glu Tyr Phe Tyr Glu Asp Lys Ser Asp Arg Ile Ile Asp Asp Asp  
     275                 280                 285  
 Val Leu Ala Arg Leu Leu Ser Phe Asn Asn Val Ile Val Thr Ser His  
     290                 295                 300

Gln Ala Phe Phe Thr Arg Glu Ala Leu Ala Asn Ile Ala Ala Thr Thr  
 305 310 315 320  
 Leu Glu Asn Ile Arg Asp Phe Lys Asn Gln Lys Pro Leu Val Asn Glu  
 325 330 335  
 Val Lys Leu Ser Asn Ala  
 340

<210> 7033

<211> 104

<212> PRT

<213> B.fragilis

<400> 7033

Tyr Pro Thr Lys Arg Asn Ser Asn Asn Ile Gln Asp Lys Leu Thr Asn  
 1 5 10 15  
 Pro Leu Leu Arg Lys Glu Tyr Ile Thr Thr Lys Asn Gly Lys Asn Ser  
 20 25 30  
 Ile Lys Asp Asp Val Leu Thr Pro His Asn Ile Glu Asn Lys Lys Glu  
 35 40 45  
 Ala Ala Thr Ile Glu Tyr Phe Pro Tyr Leu Asn Ile Ile Ser Ala Thr  
 50 55 60  
 Asn Ala Ile Lys Ala Pro Pro Ser Leu Gly Leu Glu Asn Lys Pro Phe  
 65 70 75 80  
 Leu Tyr Ile Lys Leu Leu Met Pro Ile Ala Ser Ser Asp Asn Phe Thr  
 85 90 95  
 Thr Tyr Phe Lys Leu Met Ile Ser  
 100

<210> 7034

<211> 330

<212> PRT

<213> B.fragilis

<400> 7034

Lys Ile Asn Lys Gly Ile Leu Val Pro Phe Ser Lys Asn Asp Ile Thr  
 1 5 10 15  
 Met Asn Arg Ile Ser Ser Leu Phe Gly Ile Gln Tyr Pro Ile Ile Gln  
 20 25 30  
 Gly Gly Met Val Trp Cys Ser Gly Trp Lys Leu Ala Ser Ala Val Ser  
 35 40 45  
 Asn Ala Gly Gly Leu Gly Leu Ile Gly Ser Gly Ser Met Tyr Pro Asp  
 50 55 60  
 Val Leu Arg Glu His Ile Arg Lys Cys Arg Ala Ala Thr Asp Lys Pro  
 65 70 75 80  
 Phe Gly Val Asn Ile Pro Leu Met Tyr Pro Gln Ile Glu Glu Ile Met  
 85 90 95  
 Asn Ile Val Val Glu Glu Gly Val Lys Ile Val Phe Thr Ser Ala Gly  
 100 105 110  
 Asn Pro Lys Thr Trp Thr Gly Trp Leu Lys Glu Arg Gly Ile Thr Val  
 115 120 125  
 Ala His Val Val Ser Ser Ser Lys Phe Ala Met Lys Cys Glu Glu Ala  
 130 135 140  
 Gly Val Asp Ala Ile Val Ala Glu Gly Phe Glu Ala Gly Gly His Asn  
 145 150 155 160  
 Gly Arg Glu Glu Thr Thr Leu Cys Leu Ile Pro Ala Val Arg Glu  
 165 170 175  
 Ala Thr Thr Leu Pro Leu Ile Ala Ala Gly Gly Ile Gly Thr Gly Glu  
 180 185 190  
 Ala Ile Phe Ala Leu Met Ala Leu Gly Ala Glu Gly Val Gln Met Gly

195	200	205
Thr Arg Phe Ala Leu Thr Asp Glu Ser Ser Ala Ser Asp Ile Phe Lys		
210	215	220
Glu Tyr Cys Leu Arg Leu Asn Glu Gly Asp Thr Lys Leu Leu Leu Lys		
225	230	235
Lys Leu Ala Pro Thr Arg Leu Val Thr Asn Ser Phe Arg Asp Arg Val		
245	250	255
Glu Ala Ala Glu Gly Arg Gly Ala Ser Ala Glu Glu Leu Arg Glu Leu		
260	265	270
Leu Gly Arg Gly Arg Ala Lys Lys Gly Ile Phe Glu Gly Asp Leu Glu		
275	280	285
Glu Gly Glu Leu Glu Ile Gly Gln Val Ala Ala Leu Phe Arg Arg Arg		
290	295	300
Gln Ser Val Asp Glu Val Met Lys Glu Leu Leu Glu Gly Tyr Arg Arg		
305	310	315
Ala Ser Asp Lys Ile Arg Ser Ala Gly Leu		
325	330	

&lt;210&gt; 7035

&lt;211&gt; 220

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7035

Met Met Lys Asn Asp Ser Ala Val Val Leu Phe Ser Gly Gly Gln Asp		
1	5	10
Ser Thr Thr Cys Leu Phe Trp Ala Lys Lys His Phe Lys Lys Val Tyr		
20	25	30
Ala Leu Ser Phe Leu Tyr Gly Gln Lys His Ala His Glu Val Glu Leu		
35	40	45
Ala Arg Gly Ile Ala Glu Arg Ala Gly Val Glu Phe His Val Met Asp		
50	55	60
Thr Ser Phe Ile Gly Ser Leu Gly Ser Asn Ser Leu Thr Asp Thr Ser		
65	70	75
Ile Ser Met Asp Glu Asp Lys Pro Lys Asp Ser Phe Pro Asn Thr Phe		
85	90	95
Val Pro Gly Arg Asn Leu Phe Phe Leu Ser Ile Ala Ala Val Phe Ala		
100	105	110
Arg Glu Gln Gly Ala Phe His Leu Val Thr Gly Val Ser Gln Thr Asp		
115	120	125
Tyr Ser Gly Tyr Pro Asp Cys Arg Asp Ser Phe Ile Lys Ser Leu Asn		
130	135	140
Val Thr Leu Asn Leu Ala Met Asp Glu Gln Phe Val Ile His Thr Pro		
145	150	155
Leu Met Trp Ile Asp Lys Ala Glu Thr Trp Ala Leu Ala Asp Glu Leu		
165	170	175
Gly Val Phe Asp Leu Val Arg Asn Glu Thr Leu Thr Cys Tyr Asn Gly		
180	185	190
Ile Pro Ala Asp Gly Cys Gly His Cys Pro Ala Cys Lys Leu Arg Lys		
195	200	205
Gln Gly Leu Glu Glu Tyr Leu Ser Lys Arg Asn Arg		
210	215	220

&lt;210&gt; 7036

&lt;211&gt; 386

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7036

Lys Val Lys Lys Val Lys Met Cys Cys Leu Lys Arg Arg Asn Ile Phe  
 1 5 10 15  
 Ile Leu Phe Gln Phe Leu Leu Ile Leu Cys Phe Ile Phe Ser Ser Ile  
 20 25 30  
 Gly Glu Thr Phe Tyr Ser Ser Val Asn Thr Asn Thr Gln Tyr Ile Ile  
 35 40 45  
 Val Leu Phe Ser Phe Tyr Tyr Leu Phe Ser Ile Leu Cys Cys Arg Gly  
 50 55 60  
 Val Tyr Pro Asp Gln Leu Ile Ile Leu Tyr Ala Ile Leu Leu Ser  
 65 70 75 80  
 Phe Phe Met Thr Tyr Leu Ser Ser Arg Gly Asn Ile Asn Met Leu Lys  
 85 90 95  
 Ile Asn Tyr Ile Tyr Ile Tyr Pro Ile Phe Leu Gly Tyr Leu Leu Ser  
 100 105 110  
 Tyr Arg Phe Glu Asn Gly Phe Val Leu Arg Val Leu Gln Val Cys Leu  
 115 120 125  
 Ile Ala Asn Phe Leu Ala Ile Cys Tyr Glu Ile Ile Asn Leu Lys Tyr  
 130 135 140  
 Val Val Lys Leu Ser Glu Asp Ala Ile Gly Ile Asn Asn Leu Ile Tyr  
 145 150 155 160  
 Arg Asn Gly Leu Phe Ser Asn Pro Lys Glu Gly Gly Ala Phe Ile Ala  
 165 170 175  
 Phe Val Ala Leu Ile Met Phe Lys Tyr Gly Lys Tyr Ser Ile Val Ala  
 180 185 190  
 Ala Ser Phe Leu Phe Ser Ile Leu Cys Gly Val Arg Thr Ser Ser Phe  
 195 200 205  
 Ile Leu Phe Phe Pro Phe Leu Val Val Met Tyr Ser Phe Leu Lys Arg  
 210 215 220  
 Gly Leu Val Ser Leu Ser Trp Met Leu Leu Leu Phe Leu Leu Val Gly  
 225 230 235 240  
 Tyr Tyr Met Phe Tyr Tyr Met Ser Asp Val Ser Ser Leu Met Glu Arg  
 245 250 255  
 Phe Ile Asn Leu Leu Ser Thr Thr Asp Glu Gly Asn Ser Met Arg Leu  
 260 265 270  
 Val Phe Met Lys His Val Asp Ile Cys Val Asp Asp Tyr Asn Leu  
 275 280 285  
 Phe Asp Tyr Leu Phe Gly Arg Phe Gly Tyr Ser Arg Asn Gln Ile Gly  
 290 295 300  
 Asn Gly Ala Glu Ser Ser Trp Leu Asp Leu Leu Thr Asn Val Gly Ile  
 305 310 315 320  
 Ser Thr Phe Leu Leu Tyr Val Ile Pro Leu Cys Gln Ile Ile Val Cys  
 325 330 335  
 Ser Gln Lys Trp Ile Met Lys Ile Thr Tyr Leu Val Leu Phe Val Ser  
 340 345 350  
 Met Gly Ile Ser Arg Phe Gly Ile Gly Ile Thr Ser Gly Val Leu Phe  
 355 360 365  
 Trp Leu Leu Ile Phe Gln Glu Leu Lys Glu Ser Lys Leu Ser Lys Asp  
 370 375 380  
 Ile Ser  
 385

<210> 7037

<211> 351

<212> PRT

<213> B.fragilis

<400> 7037

Asn Ile Met Asn Arg Tyr Pro Tyr Ile Ile Ala Glu Ile Gly Gly Asn  
 1 5 10 15

His Asn Gly Asp Met Glu Leu Ala Arg Glu Met Ile Lys Ser Ala Lys  
 20 25 30  
 Glu His Gly Ala Asp Ala Val Lys Phe Gln Leu Tyr Arg Lys Glu Asp  
 35 40 45  
 Leu Trp Thr Asn Asp His Leu Glu Glu Leu Asn Asn Gly Val Val Asn  
 50 55 60  
 Leu Glu Asn Val Ser Asn Trp Ser Thr Gln Glu Leu Gly Leu Lys Asn  
 65 70 75 80  
 Ile Phe Glu Gln Val Glu Lys Phe Ser Val Gln Glu Lys Asp His Ile  
 85 90 95  
 Val Phe Phe Asp Tyr Ala Arg Glu Phe Gly Ile Asp Tyr Ala Thr Ser  
 100 105 110  
 Ala Phe Thr Lys Gln Asp Ile Asp Phe Cys Ile Asp Gln Lys Val Ala  
 115 120 125  
 Phe Leu Lys Ile Ala Ser Cys Asp Ile Thr Asn Leu Asp Leu Ile Glu  
 130 135 140  
 Tyr Ala Ile Ser Lys Asp Tyr Pro Leu Leu Ile Ser Leu Gly Leu Ala  
 145 150 155 160  
 Asp Leu Gly Glu Ile Glu Gln Val Val Asn Leu Ile Pro Glu Lys Cys  
 165 170 175  
 Arg Pro Asn Ile Thr Leu Leu His Cys Val Ser Leu Tyr Pro Pro Lys  
 180 185 190  
 Asp Glu Ile Val Asn Leu Lys Phe Met His Thr Leu Thr Ser Thr Phe  
 195 200 205  
 Gly Leu Asn Val Gly Tyr Ser Asp His Thr Leu Gly Val Ser Ile Ser  
 210 215 220  
 Leu Ala Ala Val Ala Leu Gly Ala Lys Val Ile Glu Lys His Phe Thr  
 225 230 235 240  
 Leu Asp Lys Glu Met Pro Gly Trp Asp His Lys Val Ser Ala Asn Pro  
 245 250 255  
 Glu Glu Met Ala Val Ile Ser Arg Glu Thr Lys Arg Ile Val Asp Ser  
 260 265 270  
 Leu Gly Asn Gly Ile Lys Thr Ile Ser Glu Asp Glu Phe Glu Lys Arg  
 275 280 285  
 Lys Lys Phe Arg Arg Ser Ile Thr Thr Lys Tyr Val Leu Gln Glu Gly  
 290 295 300  
 His Val Ile Ser Tyr Asp Asp Ile Leu Phe Lys Arg Pro Gly Thr Gly  
 305 310 315 320  
 Ile Ser Ala Asn Arg Leu Lys Asp Val Ile Gly Arg Arg Val Asn His  
 325 330 335  
 Thr Ile Glu Ala Asp Lys Thr Leu Phe Trp Glu Asp Leu Ile Arg  
 340 345 350

&lt;210&gt; 7038

&lt;211&gt; 388

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7038

Leu Tyr Met Lys Ile Val His Leu Cys Leu Ala Ser Phe Phe Val Asp  
 1 5 10 15  
 Asn Tyr Thr Tyr Gln Glu Asn Leu Leu Pro Lys Tyr His Lys Met Ala  
 20 25 30  
 Gly His Asp Val Thr Ile Ile Ala Ser Leu Val Ser Phe Ser Glu Lys  
 35 40 45  
 Arg Lys Pro Ile Ile Leu Pro Gly Glu Ser Ile Tyr Glu Thr Gln Glu  
 50 55 60  
 Gly Cys Arg Val Tyr Arg Val Asp Tyr Lys Arg Ser Phe Tyr Phe Phe  
 65 70 75 80

Asn Arg Leu Leu Arg Arg Tyr Asn Lys Leu Gln Ser Leu Leu Asp Lys  
           85                     90                     95  
 Glu Arg Pro Asp Met Ile Phe Ile His Gly Val Gln Phe Ala Asn Val  
           100                 105                    110  
 Ser Ile Ile Leu Lys Tyr Lys Lys Tyr Pro Ser Val Arg Ile Leu  
           115                 120                    125  
 Cys Asp Asn His Ala Asp Trp Ile Asn Ser Ala Arg Asn Leu Leu Ser  
           130                 135                    140  
 Lys Lys Ile Leu His Gly Ile Ile Trp Arg Tyr Tyr Ala Asn Lys Ile  
           145                 150                    155                 160  
 Glu Pro Tyr Val Thr Arg Phe Tyr Gly Val Thr Pro Leu Arg Cys Glu  
           165                 170                    175  
 Phe Leu Lys Lys Met Tyr Asn Ile Pro Ser Ser Lys Val Ser Leu Leu  
           180                 185                    190  
 Val Met Gly Val Asp Asp Trp Gly Ile Pro Trp Glu Asn Arg Asn Ala  
           195                 200                    205  
 Ile His Met Lys Ile Arg Asn Gln Leu Asn Ile Ala Pro Ser Asp Phe  
           210                 215                    220  
 Leu Ile Ile Thr Gly Gly Lys Ile Asp Glu Arg Lys Asn Ile His Leu  
           225                 230                    235                 240  
 Leu Met Glu Ala Val Leu Asn Ser Phe Glu Ser Asn Ile His Leu Val  
           245                 250                    255  
 Val Phe Gly Asn Ile Ala Pro Glu Met Lys Lys Lys Ile Asp Ser Leu  
           260                 265                    270  
 Glu Asp Asn Glu Lys Ile His Tyr Val Gly Trp Leu Ser Ser Glu Lys  
           275                 280                    285  
 Thr Ile Glu Tyr Phe Phe Ala Ser Asp Leu Ala Val Phe Pro Gly Thr  
           290                 295                    300  
 His Ser Val Leu Trp Glu Gln Ala Val Gly Ile Gly Ile Pro Ser Ile  
           305                 310                    315                 320  
 Phe Lys Tyr Trp Asp Gly Met Thr His Val Asp Leu Gly Gly Asn Cys  
           325                 330                    335  
 Leu Phe Leu Phe Glu Asn Ser Ser Glu Glu Ile Ser Lys Lys Ile Ser  
           340                 345                    350  
 Ser Leu Ser Ser Arg Glu Thr Lys Tyr Leu Glu Met Lys Lys Ile Ala  
           355                 360                    365  
 Ser Cys Phe Ala His Lys Phe Tyr Tyr Ser Asp Ile Ala Lys Lys Val  
           370                 375                    380  
 Ile Glu Asp Val  
           385

&lt;210&gt; 7039

&lt;211&gt; 442

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7039

Phe Asn Met Lys Asn Lys Val Asp Ile Leu Ser Phe Thr Tyr Ser Ser  
   1              5                 10                 15  
 Lys Gly Arg Asp Ile Asp Ile Val Glu Pro Val Leu Ser Lys Leu Glu  
   20             25                 30  
 Leu Glu Leu Gly Val Ile Ile Lys Arg Cys Trp Leu Tyr Asp Asn Phe  
   35             40                 45  
 Val Phe Asp Ile Leu Arg Tyr Lys Pro Lys Met Leu Ile Leu Ala Asn  
   50             55                 60  
 Ala Ile Gly Cys His Tyr His Phe Trp Ala Ala Lys Phe Ala Ser Met  
   65             70                 75                 80  
 Leu Gly Ile Lys Val Val Thr Phe Val Ser Glu Gly Asp Tyr Arg Tyr  
   85             90                 95

Ile	Asn	Gly	Ser	Ile	Thr	Thr	Met	Leu	Tyr	Gly	Trp	Asn	Lys	Glu	Glu
				100				105				110			
His	Leu	Tyr	Glu	Asp	Leu	His	Leu	Glu	Trp	Ser	Gln	Arg	Asn	Ile	Asn
				115				120				125			
Tyr	Phe	Ser	Thr	Ser	Pro	Ser	Phe	Asp	Glu	Asn	Ile	Val	Lys	Leu	Ser
				130			135				140				
Gly	Ala	Thr	Gly	Phe	Asp	Lys	Tyr	Lys	Leu	Leu	Lys	Phe	Leu	Asn	Lys
				145			150				155				160
Asn	Asp	Phe	Leu	Met	Lys	Tyr	Asp	Leu	Gly	His	Tyr	Glu	Lys	Ile	Val
				165				170				175			
Gly	Leu	Gly	Gly	Trp	Thr	Phe	Asp	Phe	Ala	Phe	Asn	Glu	Asn	His	Ser
				180				185				190			
Thr	Gly	Pro	Ile	Phe	Phe	Gly	Lys	Glu	Leu	Asp	Gly	Ile	Lys	Ala	Ser
				195				200				205			
Leu	Phe	Ala	Leu	Arg	Glu	Gly	Tyr	Arg	Ala	Leu	Val	Thr	Asn	Asn	Pro
				210			215				220				
Asp	Ile	Leu	Phe	Ile	Cys	Lys	Lys	His	Pro	Leu	Thr	Ile	Asn	Glu	Tyr
				225			230				235				240
Tyr	Asp	Glu	Phe	Ser	Leu	Val	Arg	Glu	Tyr	Pro	Asn	Val	Ile	Thr	Leu
				245				250				255			
Gln	Thr	Glu	Glu	Asn	Ile	Tyr	Asp	Leu	Ile	Asn	Val	Ser	Asp	Leu	Trp
				260				265				270			
Ile	Thr	Phe	Asp	Ser	Thr	Thr	Ala	Leu	Glu	Ala	Trp	Leu	Leu	Gly	Lys
				275				280				285			
Thr	Thr	Leu	Leu	Tyr	Asn	Pro	Val	Ile	Gln	Asp	Phe	Asn	Arg	Ser	Ser
				290				295				300			
Ile	Met	Lys	Gly	Ser	Pro	Ile	Leu	Thr	Thr	Pro	Glu	Met	Leu	Ile	Asp
				305			310				315				320
Ser	Val	Lys	Glu	Phe	Tyr	Glu	Asn	Asn	Arg	Ile	Ile	Asp	Ala	Phe	Ser
				325				330				335			
Gln	Lys	Glu	Asn	Glu	Arg	Asn	Asn	Ile	Ile	Lys	Glu	Val	Ile	Ala	Phe
				340				345				350			
Cys	Asp	Gly	Lys	Asn	Tyr	Leu	Arg	Ala	Ala	Asp	Leu	Ile	Thr	Ser	Leu
				355				360				365			
Tyr	Leu	Gly	Glu	Lys	Lys	Lys	Glu	Lys	Val	His	Val	Ala	Phe	Ile	
				370			375				380				
Leu	Lys	Met	Gly	Gly	Cys	Gly	Ile	Arg	Asn	Phe	Leu	Arg	Asn	Leu	Val
				385			390				395				400
Ala	Tyr	Ser	Asn	Phe	Phe	Asp	Val	Ile	Pro	Arg	Val	Arg	Arg	Phe	Lys
				405				410				415			
Asn	Thr	Arg	Leu	Ala	Leu	Tyr	Asn	Glu	Lys	Glu	Arg	Glu	Tyr	Tyr	Arg
				420				425				430			
Leu	Ile	Tyr	Lys	Glu	Ala	Ile	Thr	Asn	Asp						
				435				440							

<210> 7040

<211> 200

<212> PRT

<213> B.*fragilis*

<400> 7040

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Glu Ser Met Lys Lys Asn Phe Phe Tyr Ala Gly Gly Leu Ser Leu Leu
1          5          10          15
Leu Trp Gly Met Ala Ala Cys Ser Gly Gln Gly Lys Ala Asp Lys Ala
20         25         30
Ala Val Val Ala Asp Ser Val Val Val Lys Thr Asp Ser Val Ala Ala
35         40         45
Asp Ser Thr Gly Tyr Ile Val Lys Val Gly Glu Ser Ala Pro Asp Phe
50         55         60

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Thr Ile Thr Leu Thr Asp Gly Lys Gln Met Lys Leu Ser Glu Leu Arg  
 65 70 75 80  
 Gly Lys Val Val Met Leu Gln Phe Thr Ala Ser Trp Cys Gly Val Cys  
 85 90 95  
 Arg Lys Glu Met Pro Phe Ile Glu Lys Asp Ile Trp Leu Lys His Lys  
 100 105 110  
 Asn Asn Pro Glu Phe Ala Leu Ile Gly Ile Asp Arg Asp Glu Pro Leu  
 115 120 125  
 Asp Lys Val Ile Ala Phe Gly Lys Ser Val Gly Val Thr Tyr Pro Leu  
 130 135 140  
 Gly Leu Asp Pro Gly Ala Asp Ile Phe Ala Lys Tyr Ala Leu Arg Glu  
 145 150 155 160  
 Ser Gly Ile Thr Arg Asn Val Leu Ile Asp Arg Glu Gly Lys Ile Val  
 165 170 175  
 Lys Leu Thr Arg Leu Tyr Asn Glu Glu Phe Ala Ser Leu Val Asp  
 180 185 190  
 Gln Ile Asp Glu Met Leu Lys Lys  
 195 200

&lt;210&gt; 7041

&lt;211&gt; 431

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 7041  
 Leu Ile Met Lys Thr Phe Phe Arg Ser Val Ala Met Leu Leu Gly Leu  
 1 5 10 15  
 Gly Leu Leu Pro Leu Ala Ala His Ala Gln Lys Lys Val Ile Ile Glu  
 20 25 30  
 Asp Glu Glu Pro Asn Ser Val Met Phe Val Ser Thr Asn Lys Ala Gly  
 35 40 45  
 Asp Glu Ile Ile Arg Ile Met Asn Glu Thr Arg Leu Pro Arg Phe His  
 50 55 60  
 Glu Pro Lys Ala Pro Arg Phe Val Leu Thr Asp Arg Gln Gly Lys Phe  
 65 70 75 80  
 Ala Leu Gly Ile Gly Gly Tyr Val Arg Ala Thr Ala Glu Tyr Asp Phe  
 85 90 95  
 Gly Gly Ile Val Lys Asp Val Asp Phe Tyr Pro Ala Leu Ile Pro Asn  
 100 105 110  
 Lys Gly Ser Ala Asp Arg Ala Arg Asn Gln Phe Gln Met Asp Ile Ser  
 115 120 125  
 Thr Ser Thr Leu Phe Leu Lys Leu Val Gly His Thr Lys Arg Leu Gly  
 130 135 140  
 Asp Phe Val Val Tyr Thr Ala Ala Asn Phe Arg Gly Asp Gly Lys Thr  
 145 150 155 160  
 Phe Glu Leu Gln Asn Ala Tyr Ala Thr Phe Leu Gly Phe Thr Leu Gly  
 165 170 175  
 Tyr Ser Tyr Gly Asn Phe Met Asp Leu Ala Ala Leu Pro Pro Thr Ile  
 180 185 190  
 Asp Phe Ala Gly Pro Asn Gly Ser Ala Phe Tyr Arg Thr Thr Gln Leu  
 195 200 205  
 Ser Tyr Met Cys Asp Lys Leu Lys Asn Trp Lys Phe Gly Val Gly Val  
 210 215 220  
 Glu Met Pro Ser Val Asp Gly Thr Thr Asn Gln Tyr Leu Thr Ile Asn  
 225 230 235 240  
 Thr Gln Arg Met Pro Asp Phe Thr Ala Ser Ala Gln Tyr Asn Trp Asn  
 245 250 255  
 Ala Asn Ser His Leu Lys Leu Ala Ala Ile Val Arg Ser Met Thr Tyr  
 260 265 270

Ser Ser Ser Val Asp Asn Lys Ala His Ser Lys Ala Gly Tyr Gly Leu  
 275 280 285  
 Gln Ala Ser Thr Ser Phe Asn Val Thr Pro Lys Trp Gln Val Tyr Gly  
 290 295 300  
 Gln Val Asn Tyr Gly Lys Gly Ile Gly Gln Tyr Leu Asn Asp Leu Ser  
 305 310 315 320  
 Asn Leu Asn Val Asp Ile Val Pro Asn Pro Glu Lys Glu Gly Arg Met  
 325 330 335  
 Gln Thr Leu Pro Met Leu Gly Trp Phe Ala Gly Leu Gln Tyr Asn Ile  
 340 345 350  
 Ser Lys Asn Val Phe Val Ser Gly Thr Tyr Ser Leu Ser Arg Leu Tyr  
 355 360 365  
 Ser Glu His Thr Tyr Pro Ser Asp Glu Pro Asp Met Tyr Arg Lys Gly  
 370 375 380  
 Gln Tyr Leu Val Ala Asn Leu Phe Trp Asn Val Thr Ser Asn Leu Gln  
 385 390 395 400  
 Val Gly Ala Glu Tyr Leu Arg Gly Trp Arg Thr Asp Phe Ser Ser Asn  
 405 410 415  
 Thr Arg His Ala Asn Arg Met Asn Ala Leu Val Gln Tyr Ser Phe  
 420 425 430

&lt;210&gt; 7042

&lt;211&gt; 343

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7042

Tyr Glu Met Lys Asp Arg Ile Ile Leu Ser Asn Val Lys Asn Ile Lys  
 1 5 10 15  
 Asp Ile Ile His Ala Ile Asp Glu Tyr Gln Lys Gly Val Ile Ala Val  
 20 25 30  
 Val Asp Asp Asp Asn Lys Leu Ile Gly Ile Val Thr Asp Gly Asp Ile  
 35 40 45  
 Arg Lys Ala Ile Leu Tyr Gly Glu Leu Ser Ile Glu Lys Ile Ile Asn  
 50 55 60  
 Lys Arg Pro Val Thr Phe Gln Tyr Gly Ser Asn Gln Arg Ser Ile Ile  
 65 70 75 80  
 Asn Lys Leu Leu Glu Ile Lys Ser Ser Leu Ile Pro Leu Ile Glu Lys  
 85 90 95  
 Asp Gly Thr Phe Val Asp Phe Tyr Phe Leu Gly Asn Asn Tyr Lys His  
 100 105 110  
 Tyr Asn Ser Thr Lys Val Val Ile Met Ala Gly Gly Leu Gly Ser Arg  
 115 120 125  
 Leu Gly Glu Leu Thr Glu Asn Thr Pro Lys Pro Met Leu Lys Ile Gly  
 130 135 140  
 Gly Tyr Pro Ile Leu Glu His Ile Leu Lys Ser Phe Arg Glu Cys Gly  
 145 150 155 160  
 Phe Val Asp Phe Ile Phe Cys Val Asn Tyr Lys Ser Glu Val Ile Gln  
 165 170 175  
 Glu Tyr Phe Gln Ala Gly Glu Lys Trp Asn Val Asn Ile Glu Tyr Val  
 180 185 190  
 Lys Glu Asn Lys Arg Leu Gly Thr Gly Gly Ala Leu Ser Leu Leu Asn  
 195 200 205  
 Ala Met Val Asp Gly Asp Phe Phe Val Ile Asn Gly Asp Val Leu Ser  
 210 215 220  
 Thr Leu Asn Tyr Asp Glu Phe Leu Tyr Lys His Lys Asn Asp Gln Ser  
 225 230 235 240  
 Val Ala Ser Met Cys Leu His Lys Met Asp Tyr Gln Ile Pro Tyr Gly  
 245 250 255

Val Ile Lys Thr Asp Glu Lys Ser Thr Ile Val Asp Ile Val Glu Lys  
 260 265 270  
 Pro Thr Phe Tyr Tyr Ile Asn Thr Gly Ile Tyr Val Leu Asn Ser  
 275 280 285  
 Cys Val Leu Ser Tyr Ile Pro Arg Asp Thr Phe Tyr Asp Leu Pro Met  
 290 295 300  
 Leu Phe Lys Asp Leu Lys Glu Lys Ser Met Leu Ile Lys Gly Tyr Met  
 305 310 315 320  
 Thr Ser Asp Phe Trp Met Asp Ile Gly Arg Lys Glu Asp Tyr Trp Gly  
 325 330 335  
 Ile Lys Lys Asn Phe Glu Leu  
 340

&lt;210&gt; 7043

&lt;211&gt; 281

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7043

Leu Met Lys Asn Leu Val Ala Leu Phe Thr Val Phe Tyr Ser Gly Ala  
 1 5 10 15  
 Glu Cys Phe Leu Lys Asp Phe Leu Ser Ser Leu Lys Glu Gln Ser Tyr  
 20 25 30  
 Lys Glu Phe Asp Leu Ile Ile Val Asn Asp Gly Phe Glu Val Gly Glu  
 35 40 45  
 Phe Glu Asn Leu Leu Cys Asn Leu Asn Val Val Glu Ile Lys Phe Ser  
 50 55 60  
 Ser Thr Val Ser Lys Asn Arg Glu Tyr Gly Leu Asn Tyr Ile Lys Arg  
 65 70 75 80  
 Ala Gly Tyr Lys Tyr Leu Ile Leu Cys Asp Val Asp Asp Phe Phe Ser  
 85 90 95  
 Arg Lys Arg Val Glu Ile Ser Leu Asn Met Leu Arg Glu Phe Asp Val  
 100 105 110  
 Val Val Asn Asp Val Asp Ile Val Ser Asn Arg Asn Glu Ile Leu Ile  
 115 120 125  
 Asn Asn Tyr Phe Ser Arg Ser Leu Asn Ser Ser Thr Asn Ile Asp Leu  
 130 135 140  
 His Phe Ile Lys Glu Lys Asn Leu Leu Gly Phe Ser Asn Thr Ala Ile  
 145 150 155 160  
 Lys Thr Asp Leu Phe Asp Ser Ile Asn Phe Pro Thr Asn Leu Glu Ile  
 165 170 175  
 Val Asp Trp Tyr Phe Phe Thr Ile Ile Leu Lys Glu Pro Lys Val  
 180 185 190  
 Gly Phe Ile His Gln Ala Leu Thr Tyr Tyr Arg Gln His Ser Asn Asn  
 195 200 205  
 Leu Ile Gly Ile Gly Asp Tyr Pro Ile Glu Phe Phe Lys Lys Met Leu  
 210 215 220  
 Asp Leu Lys Ile Ser His Tyr Ser Tyr Leu Ser Asp Ile Asp Leu Asp  
 225 230 235 240  
 Tyr Lys Ser Leu Tyr Ile Gln Tyr Leu Asp Met Lys Arg Lys Ser Asp  
 245 250 255  
 Met Asp Ile Ile Met Gly Ile Asp Lys Asn Lys Lys Ile Asn Lys Tyr  
 260 265 270  
 Pro Leu Trp Trp Glu Asn Ile Lys Leu  
 275 280

&lt;210&gt; 7044

&lt;211&gt; 238

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7044

Leu	Met	Ile	Asp	Phe	Phe	Ile	Ser	Ile	Leu	Leu	Tyr	Phe	Tyr	Ile	Leu
1				5					10					15	
Leu	Phe	Arg	Arg	Gly	Ile	Arg	Thr	Ala	Phe	Pro	Cys	Leu	Val	Ser	Pro
					20				25					30	
Leu	Phe	Val	Phe	Asn	Lys	Thr	Lys	Lys	Val	Thr	Asp	Val	Ser	Leu	Gly
					35			40					45		
Lys	Ser	Phe	Ile	Gly	Arg	Asp	Val	Met	Ile	Ser	Asp	Gly	Cys	His	Phe
					50			55				60			
Tyr	Asp	Thr	Pro	Ile	Val	Phe	Gly	Lys	Val	Lys	Ile	Gly	Arg	Tyr	Thr
					65			70			75			80	
Ser	Ile	Asn	Gly	Pro	Gly	Thr	Arg	Ile	Cys	Ala	Phe	Ile	His	Glu	Ile
					85				90				95		
Asn	Ile	Gly	Ala	Phe	Cys	Ser	Ile	Ala	Ser	Asn	Val	Val	Ile	Gln	Glu
					100				105				110		
Tyr	Asn	His	Cys	Val	Asn	His	Val	Thr	Thr	Tyr	Asn	Ile	Tyr	His	His
					115			120				125			
Ile	Leu	Asn	Leu	Lys	Asp	Ser	Ile	Ser	Ile	Ser	Asn	Thr	Ser	Lys	Gly
					130			135				140			
Pro	Ile	Thr	Ile	Glu	Asp	Asp	Val	Trp	Ile	Gly	Ser	Asn	Val	Val	Ile
					145			150			155			160	
Leu	Ser	Gly	Val	Lys	Ile	Gly	Arg	Gly	Ser	Val	Ile	Gly	Ala	Gly	Ala
					165				170				175		
Val	Val	Val	Asn	Asp	Val	Pro	Pro	Tyr	Ser	Val	Ala	Val	Gly	Asn	Pro
					180			185				190			
Ala	Arg	Ile	Val	Lys	Lys	Arg	Phe	Asp	Asp	Glu	Thr	Ile	Ser	Tyr	Ile
					195			200				205			
Glu	Lys	Thr	Arg	Trp	Trp	Thr	Trp	Ser	Ile	Glu	Glu	Ile	Lys	Arg	Lys
					210			215				220			
Glu	Asp	Phe	Phe	Arg	Lys	Glu	Phe	Ile	Lys	Ser	Glu	Lys	Gly		
					225			230				235			

&lt;210&gt; 7045

&lt;211&gt; 647

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7045

Gln	Ile	Ile	Glu	His	Ala	Asp	Gly	Ile	Phe	Thr	Val	Phe	Gly	Gln	Gln
1				5					10				15		
Gln	Glu	Arg	Leu	Val	Ala	Val	Ser	Ile	Asp	Gln	Cys	Leu	Leu	Leu	
					20				25				30		
Cys	Cys	Gly	Asp	Asp	Phe	His	Arg	Ile	Glu	Ala	Val	Glu	Thr	Ala	Gln
					35			40				45			
Arg	Phe	Glu	Thr	Tyr	Gln	Leu	Gly	Leu	Tyr	Arg	Leu	Ser	Gly	Arg	Ser
					50			55				60			
Gly	Phe	Thr	Gly	Cys	Phe	Pro	Leu	Arg	Ile	Arg	Leu	Ile	Arg	Leu	Leu
					65			70			75		80		
Arg	Ile	Val	Tyr	Phe	Arg	Ile	Gly	Pro	Ser	Arg	Gly	Val	Val	Gly	Glu
					85				90				95		
Val	Val	His	Ile	Ile	Ile	Ser	Gly	Ile	Ser	Ala	Cys	Val	Lys	Ser	Asp
					100				105				110		
Ala	Ser	Val	Phe	Thr	Val	Asp	Phe	His	Arg	Lys	Tyr	Ile	Val	Tyr	Arg
					115			120				125			
Phe	Ala	Gly	Arg	Cys	Ile	Asp	His	Asn	Asn	Pro	Phe	Leu	Phe	Gly	Ile
					130			135				140			
Gly	Val	Thr	Ser	Ala	Pro	Gly	Asp	Ile	Ser	Phe	Arg	Tyr	Gly	Gly	Gly

145	150	155	160
Glu	Cys	Ser	Arg
Asn	Asn	Gly	Ala
Met	Val	Pro	Gln
165	170	Cys	Val
175		Gly	Cys
Pro	Val	Val	Phe
Ala	Val	Lys	Arg
Gly	Phe	Gly	Gly
Arg	Gly	Gly	Arg
Ser	Leu	Thr	Ser
Leu	Thr	Val	Pro
180	185	Ile	Lys
Ser	Leu	Pro	Glu
Gly	Gly	Gly	Phe
Leu	Thr	Thr	Asn
195	200	205	His
Leu	His	Val	Tyr
Asn	Tyr	Ile	Thr
210	215	220	Met
Leu	Trp	Ile	Gly
Trp	Gln	Ile	Arg
225	230	235	Phe
Pro	Lys	Val	Cys
Ala	Cys	Val	Ile
245	250	255	Gly
Arg	Leu	Ser	Gly
260	265	270	Arg
Leu	Cys	Ala	Tyr
Leu	Lys	Lys	Ile
Met	Asn	Gly	Gly
275	280	285	Tyr
Ile	Leu	Cys	Asp
Ile	Ser	Ile	Asn
290	295	300	Leu
Asp	Asp	Thr	Leu
305	310	Asp	Trp
Asp	Ala	Asp	Glu
320		Ala	Phe
Thr	Lys	Met	Gly
335		Thr	Asn
Ala	Gln	Glu	Arg
340		Gly	Lys
Glu	Asp	Gly	Gln
345		Asp	Asp
Asp	Val	Asp	Arg
350		Ala	Phe
Tyr	Val	Asn	Asn
355		Pro	Phe
Asn	Asn	Asn	Gly
360		Val	Lys
Ser	Met	Ala	Asp
365		Gly	Leu
Asp	Asn	Gly	Arg
370		Met	Leu
Asn	Asp	Asp	Trp
375		Phe	Leu
Leu	Phe	Asn	Tyr
380		Asp	Leu
Asp	Asp	Asp	Asp
385		Phe	Glu
Asp	Asp	Asp	Gly
390		Leu	Asn
Asp	Asp	Asp	Asn
395		Leu	Asn
Asp	Asp	Asp	Asn
400		Leu	Asn
Asp	Asp	Asp	Asn
405		Leu	Asn
Asp	Asp	Asp	Asn
410		Leu	Asn
Asp	Asp	Asp	Asn
415		Leu	Asn
Asp	Asp	Asp	Asn
420		Leu	Asn
Asp	Asp	Asp	Asn
425		Leu	Asn
Asp	Asp	Asp	Asn
430		Leu	Asn
Asp	Asp	Asp	Asn
435		Leu	Asn
Asp	Asp	Asp	Asn
440		Leu	Asn
Asp	Asp	Asp	Asn
445		Leu	Asn
Asp	Asp	Asp	Asn
450		Leu	Asn
Asp	Asp	Asp	Asn
455		Leu	Asn
Asp	Asp	Asp	Asn
460		Leu	Asn
Gln	Met	Gly	Tyr
465		Gly	Asn
Asn	Trp	Gly	Val
470		Gly	Met
Asn	Asn	Gly	Thr
475		Gly	Ala
Asn	Asn	Gly	Asn
480		Gly	Asn
Ala	Ala	Arg	Tyr
485		Tyr	Ala
Ala	Ala	Arg	Thr
490		Ser	Ala
Ala	Ala	Arg	Val
495		Asn	Asn
Ser	Ser	Glu	Ile
500		Phe	Arg
Ser	Ser	Asp	Asp
505		Ser	Leu
Ser	Ser	Asp	Asn
510		Met	Tyr
His	Asn	Asp	Asp
515		Ala	Gly
Asn	Asn	Lys	Gly
520		Glu	Ile
Asn	Asn	Asp	Arg
525		Gly	Gly
Asn	Asn	Asp	Gly
Ile	Leu	Asn	Gly
530		Gln	Ser
Ile	Leu	Asn	Leu
535		Val	Val
Ile	Ala	Gly	Phe
540		Gly	Gly
Ile	Ala	Gly	Asn
545		Gly	Ala
Ile	Ala	Gly	Leu
550		Gly	Leu
Ile	Ala	Gly	Arg
555		Gly	Glu
Ile	Ala	Gly	Glu
560		Gly	Tyr
Ile	Ala	Gly	Phe
565		Tyr	Gln
Ile	Ala	Gly	Asn
570		Asn	Arg
Ile	Ala	Gly	Val
575		Asp	Ala
Ile	Ala	Gly	Ile
580		Asp	Cys
Val	Leu	His	Asn
585		Glu	Asn
Val	Leu	His	Arg
590		Gly	Met
His	Ser	Ser	Leu
595		Cys	Cys
His	Ser	Ser	Tyr
600		Tyr	Gly
Lys	Val	Tyr	Arg
605		Arg	Tyr
Lys	Val	Arg	Tyr
610		Met	Ile
Lys	Val	Arg	Ile
615		Met	Ile
Lys	Val	Arg	Ile
620		Leu	Ile

Asn Pro Phe Lys Ser Tyr Asn Asp Tyr Asn Pro Gly Ile Asn Asp Ala  
 625 630 635 640  
 Asp Asn Pro Asp Ile Glu Leu  
 645

<210> 7046

<211> 152

<212> PRT

<213> B.fragilis

<400> 7046

Ile Met Thr Glu Leu Lys Glu Gln Leu Ser Leu Leu Gly Arg Lys Thr  
 1 5 10 15  
 Glu Tyr Lys Gln Asp Tyr Ala Pro Glu Val Leu Glu Ala Phe Asp Asn  
 20 25 30  
 Lys His Pro Glu Asn Asp Tyr Trp Val Arg Phe Asn Cys Pro Glu Phe  
 35 40 45  
 Thr Ser Leu Cys Pro Ile Thr Gly Gln Pro Asp Phe Ala Glu Ile Arg  
 50 55 60  
 Ile Ser Tyr Leu Pro Asp Val Lys Met Val Glu Ser Lys Ser Leu Lys  
 65 70 75 80  
 Leu Tyr Leu Phe Ser Phe Arg Asn His Gly Ala Phe His Glu Asp Cys  
 85 90 95  
 Val Asn Ile Ile Met Lys Asp Leu Ile Arg Leu Met Asp Pro Lys Tyr  
 100 105 110  
 Ile Glu Val Thr Gly Ile Phe Thr Pro Arg Gly Gly Ile Ser Ile Tyr  
 115 120 125  
 Pro Tyr Ala Asn Tyr Gly Arg Pro Gly Thr Lys Tyr Glu Glu Met Ala  
 130 135 140  
 Thr His Arg Leu Met Asn His Glu  
 145 150

<210> 7047

<211> 167

<212> PRT

<213> B.fragilis

<400> 7047

Phe Leu Gly Glu Leu Thr Gly Asn Ser Ser Ser Asn Lys Gln Glu Tyr  
 1 5 10 15  
 Gln Leu Leu Lys Asp Asn Leu Val Arg Ser Tyr Asn Lys Ala Leu Lys  
 20 25 30  
 Lys Asn Ala Pro Tyr Ser Ile Phe Ala Ile Lys Asn Gly Pro Lys Ser  
 35 40 45  
 His Ile Gly Arg His Leu Met Thr Ser Phe Leu Ser Met Lys Gly Leu  
 50 55 60  
 Thr Glu Leu Thr Asn Val Val Gly Asn Trp Ser Asp Lys Arg Ala Ser  
 65 70 75 80  
 Ala Val Ala Arg Thr Thr Tyr Thr His Gln Ile Thr Ala Ile Pro Asp  
 85 90 95  
 His Tyr Phe Ala Leu Val Ser Arg Tyr Tyr Ala Tyr Asp Pro Ile Ser  
 100 105 110  
 Lys Glu Met Ile Ala Leu Lys Asp Glu Thr Asn Pro Ile Glu Glu Trp  
 115 120 125  
 Gln His Ile Glu Gln Leu Lys Gly Ser Ala Glu Gly Ser Ile Arg Tyr  
 130 135 140  
 Pro Ala Trp Asn Gly Ile Ile Ser Gln Glu Val Leu Asp Tyr Leu Ser  
 145 150 155 160  
 Ser Tyr Ile Asn Arg Arg Ile

<210> 7048  
<211> 167  
<212> PRT  
<213> B.*fragilis*

<400> 7048

<210> 7049

<211> 433  
<212> PRT  
<213> B. fragilis

<400> 7049

Met	Phe	Asn	Trp	Thr	Tyr	Leu	Asp	Gly	Leu	Ser	Asn	Tyr	Asn	Ile	Ile
1				5					10						15
Ser	Arg	Tyr	Ser	Phe	Asn	Ile	Ile	Asn	Phe	Met	Lys	Ile	Pro	Phe	Ser
			20					25						30	
Pro	Pro	Tyr	Ile	Asp	Glu	Ala	Val	Ile	Asn	Glu	Val	Val	Asp	Ser	Leu
			35				40						45		
Arg	Ser	Gly	Trp	Ile	Thr	Ser	Gly	Pro	Lys	Val	Lys	Ala	Leu	Glu	Glu
			50			55					60				
Glu	Ile	Lys	Ser	Phe	Ser	Gly	Ala	Lys	Glu	Val	Leu	Cys	Val	Asn	Ser
			65		70				75						80
Trp	Thr	Ser	Gly	Ala	Ile	Met	Met	Leu	Arg	Trp	Leu	Gly	Val	Lys	Glu
				85				90						95	
Gly	Asp	Glu	Val	Ile	Val	Pro	Ala	Tyr	Thr	Tyr	Ser	Ala	Thr	Ala	Leu
				100				105						110	
Ala	Val	Leu	His	Ala	Gly	Ala	Lys	Pro	Val	Met	Val	Asp	Ser	Gly	Thr
			115				120					125			
Asp	Phe	Asn	Ile	Ser	Val	Glu	Ala	Val	Arg	Lys	Ala	Ile	Thr	Pro	Lys
			130		135				140						
Thr	Lys	Ala	Ile	Ile	Pro	Val	Asp	Ile	Ala	Gly	Phe	Pro	Cys	Asp	Tyr
	145			150				155						160	
Glu	Arg	Ile	Met	Ala	Leu	Val	Gln	Glu	Pro	Glu	Met	Val	Lys	Leu	Phe
				165				170					175		

Arg Ser Glu Ser Pro Val Gln Glu Lys Leu Gly Arg Ile Leu Val Met  
           180                 185                 190  
 Asn Asp Ala Ala His Ser Leu Gly Ala Arg Tyr Ser Asn Arg Gln Arg  
           195                 200                 205  
 Thr Gly Cys Glu Thr Asp Val Ala Ile Phe Ser Leu His Ala Val Lys  
           210                 215                 220  
 Asn Val Thr Thr Ala Glu Gly Gly Ala Ile Cys Leu Asn Leu Pro Lys  
           225                 230                 235                 240  
 Pro Phe Asp Asn Thr Glu Leu Tyr Lys Glu Leu Arg Met Thr Ser Leu  
           245                 250                 255  
 Asn Cys Gln Thr Lys Asp Ala Phe Ser Lys Ser Lys Ala Gly Gly Trp  
           260                 265                 270  
 Arg Tyr Asp Ile Val Gly Phe Gly Met Lys Ile Asn Met Ala Asp Val  
           275                 280                 285  
 Asn Ala Ala Ile Gly Leu Ala Gln Ile Arg Glu Tyr Pro Glu Leu Leu  
           290                 295                 300  
 Lys Glu Arg Lys Arg Val Phe Asn Ala Tyr Ser Asp Ala Phe Ser Ala  
           305                 310                 315                 320  
 Cys Asp Trp Ala Ile Val Pro Pro Ser Val Asp Gly Glu Lys Glu Ser  
           325                 330                 335  
 Ser Tyr His Ile Tyr Ala Leu Arg Ile Lys Asp Phe Thr Glu Glu Gln  
           340                 345                 350  
 Arg Asp Arg Met Ile Asp Glu Ile Ala Lys Ser Glu Val Ala Val Asn  
           355                 360                 365  
 Val His Phe Ile Pro Met Pro Met Leu Ser Phe Phe Lys Ser Met Gly  
           370                 375                 380  
 Tyr Asp Ile Lys Asp Tyr Pro Gln Ala Tyr Gln Asn Phe Lys Ser Glu  
           385                 390                 395                 400  
 Ile Ser Leu Pro Ile Tyr Pro Gln Leu Asp Ser Glu Lys Leu Asn Phe  
           405                 410                 415  
 Ile Ile Glu Thr Val Lys Ala Ala Tyr Ala Thr Val Ile Ala Glu Asn  
           420                 425                 430  
 Arg

<210> 7050  
 <211> 481  
 <212> PRT  
 <213> B.fragilis

<400> 7050  
 Phe Ile Asp Cys Met Tyr Lys Lys Gln Ser Phe Trp Ser Asn Ile Ile  
   1              5                 10                 15  
 Lys Gln Ser Ser Trp Tyr Tyr Leu Cys Ser Ala Leu Asn Asn Gly Leu  
   20              25                 30  
 Ala Ile Leu Leu Pro Phe Leu Ser Arg Arg Leu Ser Thr Glu Glu  
   35              40                 45  
 Tyr Gly Ile Ile Gln Leu Ser Thr Gly Ile Gly Leu Phe Leu Pro Met  
   50              55                 60  
 Val Phe Ser Cys Gly Ile Asp Arg Ala Ile Tyr Arg Phe Phe Asn Glu  
   65              70                 75                 80  
 Cys Arg Thr His Lys Ala Lys Lys Glu Leu Ile Ser Thr Val Tyr Trp  
   85              90                 95  
 Phe Val Val Ile Val Gly Met Val Phe Leu Thr Ile Phe Val Leu Ser  
   100            105                 110  
 Ser Ser Leu Trp Phe Lys Ser Val Val His Ile Ser Pro Tyr Pro Tyr  
   115            120                 125  
 Val Leu Leu Phe Ala Tyr Pro Tyr Leu Phe Ala Glu Leu Ser Thr Ile  
   130            135                 140

Gly Gln Ser Tyr Phe Gln Gln Val Phe Asp Leu Lys Arg Met Thr Ile  
 145 150 155 160  
 Ile Glu Val Ile Gly Thr Ala Ile Asn Leu Leu Leu Ser Ile Tyr Phe  
 165 170 175  
 Val Val Thr Trp Asp Asp Gly Ala Leu Ala Arg Leu Val Ala Ile Thr  
 180 185 190  
 Ile Ser Phe Phe Lys Ser Ser Ile Tyr Ser Tyr Tyr Leu Leu Lys  
 195 200 205  
 Arg Asn Leu Leu Val Phe Arg Cys Asn Tyr Ile Lys Val Trp Glu Tyr  
 210 215 220  
 Val Lys Phe Ser Leu Pro Leu Leu Pro Asn Ser Ile Ser Leu Trp Leu  
 225 230 235 240  
 Ser Arg Thr Phe Asp Arg Ile Leu Ile Ser Tyr Tyr Cys Gly Thr Ala  
 245 250 255  
 Ile Ala Gly Val Tyr Ser Thr Ala Val Gln Val Ser Phe Val Leu Tyr  
 260 265 270  
 Phe Ile Gln Asp Ser Val Thr Gln Ala Phe Gly Pro Met Gln Ile Arg  
 275 280 285  
 Leu Phe Ile Gln Asn Lys Val Glu Ala Val Arg Cys Leu Lys Ile Met  
 290 295 300  
 Ser Lys Ile Phe Tyr Ile Ile Met Leu Val Ser Val Val Phe Leu Ser  
 305 310 315 320  
 Ser Phe Cys Lys Glu Ile Met Asn Phe Val Leu Asp Glu Lys Phe Val  
 325 330 335  
 Pro Pro Val Ile Val Val Ala Leu Leu Ser Ser Val Tyr Ile Tyr Gln  
 340 345 350  
 Ala Gln Tyr Arg Leu Phe Ser Asp Ile Leu Ile Tyr His Lys Lys Asn  
 355 360 365  
 Lys Tyr Phe Met Tyr Ala Gly Ile Ile Gln Ala Val Ile Ser Leu Leu  
 370 375 380  
 Ile Asn Ile Val Phe Ile Pro Lys Tyr Gly Tyr Val Val Ala Gly Trp  
 385 390 395 400  
 Ser Ser Leu Ile Ala Val Met Leu Tyr Thr Leu Ile Ile Ala Tyr Tyr  
 405 410 415  
 Ser Val Lys Ile Glu Asn Leu Ser Leu Asp Tyr Ser Phe Tyr Ile Lys  
 420 425 430  
 Tyr Thr Leu Ile Leu Met Leu Ala Leu Phe Leu Leu Leu Asn Pro Leu  
 435 440 445  
 Phe Asn Met Asp Met His Ile Leu Leu Lys Leu Leu Leu Val Ser Gly  
 450 455 460  
 Ile Leu Val Phe Gly Val Arg Asp Val Phe Lys Leu Lys Lys Asn Ile  
 465 470 475 480  
 Val

<210> 7051  
 <211> 246  
 <212> PRT  
 <213> B.fragilis

<400> 7051  
 Phe Leu Met Cys Glu Leu Gly Tyr Phe Ile Ser Ser Tyr Arg Leu Ser  
 1 5 10 15  
 Pro Tyr Lys Phe Arg Phe Phe Pro Ile Ser Asn Tyr Arg Ile His Arg  
 20 25 30  
 Ser Gly Met Ile Phe Leu Leu Tyr Phe Cys Cys Lys Pro Lys Lys Asn  
 35 40 45  
 Ile Met Lys Lys Ile Leu Phe Ile Leu Phe Thr Val Gln Phe Ile Leu  
 50 55 60

Ile Pro Arg Ile Thr Gly Ser Tyr Gly Ala Asn Ser Ile Gly Asn Asn  
 65 70 75 80  
 His Gly His Ser Val Thr Asn Gln Gly Lys Lys Thr Ile Lys Lys Asp  
 85 90 95  
 Ile Phe Gly Asp Thr Val Ile Glu Asp Asn His Gly Asn Arg Lys Thr  
 100 105 110  
 Ile Lys Lys Asp Ile Phe Gly Asp Thr Val Ile Glu Asp Asn Arg Gly  
 115 120 125  
 Asn Arg Lys Thr Ile Lys Lys Asp Ile Phe Gly Asp Thr Val Ile Glu  
 130 135 140  
 Asp Asn Arg Gly Asn Arg Lys Thr Ile Lys Lys Asp Ile Phe Gly Asp  
 145 150 155 160  
 Thr Val Ile Glu Asn Asn Cys Gly Asn Arg Lys Thr Ile Lys Lys Asp  
 165 170 175  
 Ile Phe Gly Asp Thr Val Ile Glu Asp Asn Arg Gly Asn Arg Lys Ser  
 180 185 190  
 Ile Lys Lys Asp Ile Phe Gly Asn Thr Val Ile Glu Asn Asn Lys Gly  
 195 200 205  
 Tyr Lys Lys Thr Ile Lys Thr Asp Ile Phe Gly Asn Lys Ile Ile Glu  
 210 215 220  
 Asp Asn His Gly Lys Lys Gln Ile Ile Lys Lys Asp Ile Phe Gly Asn  
 225 230 235 240  
 Val Ile Ile Glu Asn Tyr  
 245

&lt;210&gt; 7052

&lt;211&gt; 236

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7052

Asn Phe Ile Leu Gly Gly Phe Asp Lys Met Ile Ala Ile Ile Pro Ala  
 1 5 10 15  
 Arg Gly Gly Ser Lys Gly Leu Pro Gly Lys Asn Ile Arg Lys Met Cys  
 20 25 30  
 Gly Lys Pro Leu Ile Ala Tyr Thr Ile Glu Cys Ala Leu Lys Ser Lys  
 35 40 45  
 Tyr Ile Asp Arg Val Ile Val Ser Thr Asp Asp Asp Glu Ile Ala Arg  
 50 55 60  
 Ile Ser Leu Lys Phe Gly Ala Glu Val Pro Phe Met Arg Pro Ser His  
 65 70 75 80  
 Leu Ala Ser Asp Thr Val Leu Ala Val Glu Asn Tyr Leu Tyr Thr Ile  
 85 90 95  
 Asp Arg Ile Glu Lys Glu Glu Asn Val Ile Ile Asp Arg Phe Ile Val  
 100 105 110  
 Leu Gln Pro Thr Ser Pro Leu Arg Ser Val Glu Asp Ile Asp Cys Ala  
 115 120 125  
 Val Glu Leu Phe Lys Lys Asn Ala Asp Ser Val Val Ser Tyr Thr  
 130 135 140  
 Lys Glu Glu His Pro Ile Tyr Trp His Lys Asn Ile Asp Asn Asp Asn  
 145 150 155 160  
 Arg Leu Ile Asn Ile Phe Asp Asp Lys Ile Val Asn Arg Gln Glu Leu  
 165 170 175  
 Arg Thr Thr Tyr Tyr Pro Asn Gly Ala Ile Tyr Ile Phe Lys Ser Ser  
 180 185 190  
 Leu Ile Arg Asn Lys Lys Tyr Tyr Thr Asp Asn Ser Phe Ala Tyr Val  
 195 200 205  
 Met Pro Arg Asp Arg Ser Val Asp Ile Asp Phe Leu Glu Asp Phe Leu  
 210 215 220

Tyr Ala Glu Tyr Leu Leu Lys Lys Cys Ser Met Lys  
 225                    230                    235

<210> 7053

<211> 62

<212> PRT

<213> B.fragilis

<400> 7053

Gly Ile Ile Leu Leu Cys Met Ser His Ser Tyr Asn Ser Leu Tyr Asn			
1                    5                    10                    15			
Tyr Leu Cys Leu Leu Tyr Ser Gln Pro Thr Tyr Glu Asp Lys Lys Asp			
20                    25                    30			
Lys Gln Lys Ile Phe Arg Leu Tyr Asn Asp Leu Phe Ser Glu Gln Lys			
35                    40                    45			
Glu Tyr Pro Asn Ala Tyr Pro Cys Ala Ile Met Gly Asp Gly			
50                    55                    60			

<210> 7054

<211> 272

<212> PRT

<213> B.fragilis

<400> 7054

Lys Ala Ile Arg Ser Ser Tyr Asn Lys Tyr Gln Ala Phe Val Asp Val			
1                    5                    10                    15			
Tyr Gln Leu Phe Leu His Pro Ala Gly Lys Leu His Arg Pro His Leu			
20                    25                    30			
Phe Ser Val Phe Val Gln Gln His Asn His Val Ser Arg Leu Lys Gly			
35                    40                    45			
Phe Gly Tyr Gln Phe Ala Phe Leu Leu Phe Leu Leu Gly Cys Gln			
50                    55                    60			
Ala Phe Arg Ile Phe Gln Phe Trp Asn His Leu His Ile Glu Arg Asn			
65                    70                    75                    80			
Glu Val Phe Gly Thr Leu Tyr Val Ile Val Asp Cys Ser Asp Ile Met			
85                    90                    95			
Leu Leu Tyr Ser Pro Ser Tyr Asp Asp Lys Gly Cys Phe His Ser Ser			
100                    105                    110			
Ala Asn Ser Cys Leu Leu His Lys Asn Lys Lys Ile Leu Phe Leu			
115                    120                    125			
Ala Leu Asn Thr Tyr Leu Cys Val Ser Ile Ile Leu Val Ile Met Lys			
130                    135                    140			
Lys Arg Val Leu Leu Trp Met Ala Gly Leu Val Phe Ala Val Thr Ser			
145                    150                    155                    160			
Leu Phe Ala Gln Asp Ile Pro Val Gly Val Val Val Ala Phe Lys Lys			
165                    170                    175			
Gly Asn Ser Gln Glu Leu Asn Arg Tyr Leu Gly Glu Lys Val Asn Leu			
180                    185                    190			
Val Ile Gln Asn Arg Ser Glu Ser Val Asp Arg Gln Ala Ala Glu Gly			
195                    200                    205			
Thr Leu Ala Ala Phe Phe Ser Ser Asn Lys Val Ser Gly Phe Asn Val			
210                    215                    220			
Asn His Glu Gly Lys Arg Asp Glu Ser Ser Phe Ile Ile Gly Thr Leu			
225                    230                    235                    240			
Thr Thr Ala Asn Gly Asn Phe Arg Ile Asn Cys Phe Phe Arg Arg Val			
245                    250                    255			
Gln Asn Lys Tyr Leu Ile Asn Gln Ile Arg Ile Asp Lys Thr Asn Glu			
260                    265                    270			

<210> 7055  
<211> 172  
<212> PRT  
<213> B.fragilis

<400> 7055

Lys	Gly	Lys	Arg	Ala	Met	Glu	Lys	Met	Asn	Ile	Thr	His	Lys	Ile	Val
1					5				10					15	
Ala	Met	Gln	Pro	Glu	Leu	Glu	His	Phe	Ala	Tyr	Lys	Leu	Thr	Ala	Asp
					20				25					30	
Arg	Glu	Ser	Ala	Asn	Asp	Leu	Val	Gln	Asp	Cys	Leu	Leu	Lys	Ala	Leu
					35				40					45	
Asp	Asn	Lys	Glu	Lys	Phe	Val	His	Thr	Gln	Asn	Phe	Lys	Gly	Trp	Met
					50				55					60	
Tyr	Thr	Ile	Met	Arg	Asn	Ile	Phe	Ile	Asn	Asn	Tyr	Arg	Lys	Ser	Leu
					65				70					80	
Arg	Glu	Val	Asp	Met	Thr	Asp	Ser	Thr	Tyr	Asn	Leu	Tyr	Ala	Gln	Thr
					85				90					95	
Met	Thr	Glu	Gly	Glu	Glu	Gly	Asn	Arg	Phe	Glu	Thr	Ile	Tyr	Asp	Leu
					100				105					110	
Lys	Glu	Leu	Tyr	Lys	Val	Ile	Asn	Ala	Val	Pro	Glu	Asp	Leu	Lys	Lys
					115				120					125	
Pro	Phe	Met	Met	Phe	Val	Ala	Gly	Phe	Lys	Tyr	Arg	Glu	Ile	Ala	Glu
					130				135					140	
Lys	Met	Asp	Leu	Pro	Val	Gly	Thr	Ile	Lys	Ser	Arg	Leu	Phe	Leu	Ile
					145				150					155	
Arg	Lys	Arg	Leu	Gln	Gln	Asp	Leu	Lys	Asp	Phe	Ser				
					165				170						

<210> 7056  
<211> 352  
<212> PRT  
<213> B.fragilis

<400> 7056

Arg	Phe	Lys	Arg	Arg	Lys	Leu	Ser	Val	Ser	Ser	Val	Val	Arg	Lys	Gln
1						5				10				15	
Ser	Ser	Met	Asn	Leu	Lys	Phe	Leu	Tyr	Leu	Leu	Leu	Ile	Ser	Ala	
						20				25				30	
Leu	Cys	Ile	Ser	Cys	Ser	Lys	Asp	Glu	Glu	Pro	Ser	Asp	Lys	Gly	Ser
						35				40				45	
Thr	Ser	Pro	Gln	Glu	Pro	Val	Tyr	Thr	Thr	Phe	Thr	Asp	Ala	Gly	Glu
						50				55				60	
Val	Val	Val	Pro	Gly	Val	Leu	Pro	Ala	Asn	Phe	Thr	Pro	Arg	Ser	Val
						65				70				80	
Arg	Val	Lys	Gly	Asp	Thr	Leu	Phe	Val	Ala	Asn	Thr	Asn	Ala	Asp	
						85				90				95	
Arg	Ser	Val	Leu	Leu	Asn	Leu	Thr	Thr	Gly	Glu	Leu	Ile	Gly	Arg	
						100				105				110	
Ile	Asp	Ser	Trp	Val	Arg	Lys	Gly	Val	Lys	Glu	Thr	Phe	Asn	Ala	Glu
						115				120				125	
Ile	Gly	Asp	Met	Ala	Val	Ser	Asp	Arg	Tyr	Ile	Phe	Val	Gly	Met	Tyr
						130				135				140	
Asn	Ser	Arg	Ile	Asn	Ile	Phe	Asp	Arg	Arg	Thr	Leu	Gln	Phe	Val	Asn
						145				150				160	
Ala	Ile	Gly	Arg	Ser	Asp	Gly	Lys	Trp	Gly	Asp	Asp	Ile	Tyr	Ser	Met
						165				170				175	
Thr	His	Cys	Tyr	Gly	Leu	Arg	Glu	Cys	Gly	Glu	Arg	Leu	Met	Val	Arg
						180				185				190	

Asp Lys Asn Thr Ile Arg Gly Tyr Trp Ile Tyr Glu Ala Val Thr Glu  
 195 200 205  
 Pro Ala Phe Arg Val Pro Trp Ile Gly Lys Val Lys Val Pro Glu Gly  
 210 215 220  
 Val Gly Tyr Asp Tyr Gln Ala Arg Ile His Gly Met Ala Glu Tyr Asp  
 225 230 235 240  
 Gly Arg Met Tyr Leu Thr Asp Trp Tyr Asn Lys Ser Val Gln Val Phe  
 245 250 255  
 Thr Pro Ser Lys Met Glu Ile Val Phe Gly Glu Glu Thr His Ile Thr  
 260 265 270  
 Ser Asp Ala Val Phe Lys Tyr Asp Asp Ile Gln Pro Leu Gly Leu Leu  
 275 280 285  
 Ala Tyr Gly Gly Glu Leu Leu Met Ser Val Gln Lys Ser Gly Lys Ile  
 290 295 300  
 Gln Arg Tyr Asp Pro Glu Thr Gly Asp Leu Leu Gly Val Leu Ala Glu  
 305 310 315 320  
 Phe Pro Gly Lys Glu Ile Gly Arg Met Glu Ile Ala Arg Gly Met Leu  
 325 330 335  
 Tyr Tyr Ile Asp Leu Lys Ala Gly Lys Leu Met Lys Ala Lys Gly Glu  
 340 345 350

&lt;210&gt; 7057

&lt;211&gt; 283

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7057

Leu Met Lys Ser Cys Ser Met Leu Leu Pro Asp Thr Val Ala Gly Gly  
 1 5 10 15  
 Lys Thr Gly Ser Ile Leu Val Arg His Gly Pro Ser Thr His Ala Leu  
 20 25 30  
 Thr Ser Pro Phe Ala Glu Ala Asp Thr Val Gly Gly Lys Lys Leu Asn  
 35 40 45  
 Gln Met Lys Arg Ile Val Phe Leu Met Leu Ser Leu Gly Met Ala Val  
 50 55 60  
 Thr Leu His Ala Gln Trp Thr Ala Lys Asp Ser Val Asn Leu Gln Arg  
 65 70 75 80  
 Ile Leu Asn Gly Lys Glu Asp Ile Lys Leu Asn Met Asp Ala Val Lys  
 85 90 95  
 Gln Ile Asp Phe Asn Ser Ser Pro Thr Val Pro Lys Met Ser Lys Glu  
 100 105 110  
 Arg Pro Gly Leu Arg Leu Asp Glu Thr Leu Pro Gln Val Leu Glu Lys  
 115 120 125  
 Lys Lys Val Val Leu Thr Leu Arg Pro Tyr Thr Ala Asn Thr Lys Tyr  
 130 135 140  
 Asn Trp Asp Pro Ile Tyr Gln Lys Lys Ile Arg Val Asp Ala Asp Thr  
 145 150 155 160  
 Trp Arg Gly Asp Pro Phe Val Glu Leu Tyr Gln Thr Val Pro Ser Asn  
 165 170 175  
 Trp Ala Lys Asn Val Tyr Asp Lys Gly Ile Arg Ser Ser Tyr Glu Glu  
 180 185 190  
 Ile Arg Ser Ser Gly Leu Arg His Asn Leu Phe Gly Glu Arg Ala Asn  
 195 200 205  
 Gly Met Met Val Pro Thr Gln Ser Met Val His Thr Ser Ala Met Lys  
 210 215 220  
 Leu Gly Lys Ser Gly Val Thr Val Asn Gly Gly Thr Ile Gly Gly Leu  
 225 230 235 240  
 Asp Leu Met Thr Ile Phe Thr Lys Asp Phe Trp Asp Lys Lys Gly Arg  
 245 250 255

Asn Arg Arg Ser Arg Thr Leu Glu Val Leu Lys Ala Tyr Gly Asp Ser  
 260 265 270  
 Thr Thr Val Val Leu Leu Pro Glu Pro Ile Val His  
 275 280

<210> 7058

<211> 214

<212> PRT

<213> B.fragilis

<400> 7058

Cys Ser Phe Gly Ser Met Lys Pro Leu Ile Leu Val Gly Gly Gly  
 1 5 10 15  
 His Cys Lys Ser Val Ile Asp Val Ala Glu Ser Met Arg His Ser Ile  
 20 25 30  
 Leu Gly Ile Leu Asp Leu Pro Lys Asn Val Gly His Ser Ile Leu Gly  
 35 40 45  
 Tyr Pro Val Leu Gly Thr Asp Asp Asp Ile Pro Leu Phe Val Asn Gln  
 50 55 60  
 Ala Asp Phe Ile Val Thr Val Gly Phe Ile Lys Glu Ser Ser Leu Arg  
 65 70 75 80  
 Leu Lys Ile His Asp Lys Ile Arg Thr Ser Gly Gly His Leu Gly Thr  
 85 90 95  
 Leu Ile Ala Ser Thr Ala Tyr Val Ser Arg His Ala Gln Ile Gly Ala  
 100 105 110  
 Gly Thr Val Val Met His His Ala Phe Val Asn Ala Gly Ala Arg Ile  
 115 120 125  
 Gly Ser Gly Cys Ile Ile Asn Thr Phe Val Asn Val Glu His Asp Ala  
 130 135 140  
 Leu Ile Gly Asp Asn Cys His Ile Ser Thr Gly Ala Met Val Asn Gly  
 145 150 155 160  
 Asp Cys Lys Val Gly Asp Cys Ser Phe Leu Gly Ser Gln Ser Val Met  
 165 170 175  
 Val Asn Gly Thr Ser Ile Ile Ser Gly Cys Ile Ile Gly Ala Gly Ser  
 180 185 190  
 Val Val Arg Lys Asp Ile Leu Glu Lys Gly Ile Tyr Ser Gly Asn Pro  
 195 200 205  
 Ala Ile Leu Lys Met Lys  
 210

<210> 7059

<211> 68

<212> PRT

<213> B.fragilis

<400> 7059

Asn Lys Lys Gly Lys Ile Met Ser Leu Glu Asp Ala Ile Met Gly Gly  
 1 5 10 15  
 Ile Val Phe Lys Gly Lys Lys Glu Gly Pro Lys Lys Asp Glu Asn Lys  
 20 25 30  
 Val Lys Thr Lys Ala Lys Lys Thr Thr Tyr Ile Lys Gly Thr His Gly  
 35 40 45  
 Ser Gly Ala Ala Lys Met Lys Ala Glu Ile Arg Arg Lys Arg Ala Asn  
 50 55 60  
 Arg His Lys Arg  
 65

<210> 7060

<211> 443

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7060

Arg Lys Ile Leu Asn Tyr Asn Ile Met Glu Lys Ile Val Tyr Ile Val  
1 5 10 15  
His Ala Val Asp Thr Glu Gly Pro Leu Tyr Glu Ser Thr Glu Ala Thr  
20 25 30  
Phe Glu Arg Leu Lys Ser Ser Phe Asn Ile Glu Leu Glu Pro Thr Phe  
35 40 45  
Ala Asn Leu Gln Lys Leu Arg His Arg Glu Ile Phe Leu Asn Gly Leu  
50 55 60  
Glu Asp Lys Ile Val Glu Phe Leu Asp Pro Ser Leu Gln Asn Tyr Asn  
65 70 75 80  
Asp Ser Trp Asp Lys Ile Asp Leu Met Leu Ser Lys Ile Leu Ser Asn  
85 90 95  
Asp Phe Arg Phe Lys Phe Cys Asp Ser Phe Ser Gly Gly Trp Val Tyr  
100 105 110  
Asn Trp Phe Cys Leu Asp His Val Gly Tyr Asp Tyr Asn Pro Arg Arg  
115 120 125  
Arg Asp Met Gly Tyr His Asn Ile His Asp Arg Tyr Ile Glu Leu Leu  
130 135 140  
Asp Lys Tyr Gly Lys Tyr Lys Asp Asp Ile Gln Trp His Phe His Pro  
145 150 155 160  
Met Ser His Tyr Lys Glu Ala His Arg Ala Gly Lys Ser Tyr Glu His  
165 170 175  
Ser Glu Thr Leu Tyr Gln Ile Leu Ser Arg Arg Ile Ile Asp Arg Asn  
180 185 190  
Phe Phe Pro Ser Val Phe Arg Ala Gly Cys Val Thr Glu Arg Pro Asp  
195 200 205  
Ala Asn Trp Phe Leu Glu Gln Trp Ile Pro Phe Asp Cys Ser Asn Phe  
210 215 220  
Ala Val Glu Asn Glu Asn Lys Glu Gln Tyr Arg Asp Gln Arg Asn Gly  
225 230 235 240  
Gln Ala Gly Asp Trp Arg Arg Ala Pro Ser Asp Trp Arg Ile Tyr His  
245 250 255  
Pro Asp Phe Tyr Asp Tyr Gln Lys Glu Gly Cys Cys His Arg Ser Ile  
260 265 270  
Gly Arg Phe Leu Asn Ile Val Ser Arg Tyr Gly Asn Ile Thr Ser Tyr  
275 280 285  
Glu Ile Glu Lys Ala Phe Gln Arg Ala Asn Glu Gly Leu Pro Thr Leu  
290 295 300  
Leu Gly Ile Phe Asn His Asp Phe Arg Asn Met Gly Asn Glu Ile Glu  
305 310 315 320  
Tyr Phe Cys Asp Leu Leu Tyr Asp Ile Ser Arg Lys Tyr Asn Asn Val  
325 330 335  
Ser Phe Lys Phe Ala Thr Ala Lys Glu Ala Phe Asn Ala Val Leu Gln  
340 345 350  
Asn Lys Leu Ser Glu Phe Asp Leu Asn Val Arg Leu Lys Gly Asn Glu  
355 360 365  
Leu Tyr Val Asp Thr Ile Lys Gly Cys Val Phe Gly Pro Gln Pro Tyr  
370 375 380  
Leu Ala Ile Lys Thr Lys Ser Gly Lys Tyr Ile His Asp Asn Phe Asp  
385 390 395 400  
Phe Gly Leu Asp Gly Lys Ser Trp Ser Tyr Val Phe Asp Glu Asn Met  
405 410 415  
Ile Lys Phe Glu Asp Val Asp Thr Ile Gly Val Ala Ala Asn Asp Met  
420 425 430  
Cys Gly Gln Val Ser Leu Lys Cys Ile Lys Ala

435

440

<210> 7061  
<211> 311  
<212> PRT  
<213> B.fragilis

<400> 7061

Val	Val	Phe	Phe	Ala	Phe	Val	Phe	Thr	Leu	Phe	Ser	Ser	Phe	Phe	Gly
1		5						10					15		
Pro	Ser	Phe	Phe	Pro	Leu	Lys	Thr	Ile	Pro	Pro	Ile	Ile	Ala	Ser	Ser
		20						25					30		
Lys	Leu	Ile	Ile	Phe	Pro	Phe	Leu	Phe	Tyr	Ile	Phe	Arg	Gly	Gln	Arg
		35						40				45			
Tyr	Ser	Phe	Ser	Val	Asn	Ser	Leu	Ser	Leu	Pro	Ala	Val	Thr	Thr	Lys
		50						55				60			
Asn	Gln	Ser	Met	Asn	Thr	Ser	Leu	Leu	Pro	Ala	Glu	Lys	Asp	Pro	Met
		65						70			75		80		
Gly	Ala	Ala	Ile	Ala	Asp	Phe	Tyr	His	Arg	Gln	Lys	Ala	Asp	Arg	Leu
		85						90				95			
Arg	Val	Phe	Ser	Ser	Gln	Phe	Asp	Glu	Asp	Glu	Ile	Pro	Val	Lys	Gln
		100						105				110			
Leu	Phe	Arg	Lys	Ala	Gly	Gln	Met	Pro	Leu	Leu	Glu	Arg	Thr	Ala	Leu
		115						120				125			
Ala	Met	Ala	Thr	Gly	Thr	Ile	Leu	Asp	Val	Gly	Ala	Gly	Ser	Gly	Cys
		130						135				140			
His	Ala	Leu	Ala	Leu	Gln	Glu	Ser	Gly	Lys	Glu	Val	Ser	Ala	Ile	Asp
		145				150				155			160		
Ile	Ser	Pro	Leu	Ser	Val	Glu	Val	Met	Lys	Leu	Arg	Gly	Val	Lys	Asp
		165						170				175			
Ala	Arg	Gln	Val	Asn	Leu	Phe	Asp	Glu	Arg	Phe	Ala	Ala	Thr	Phe	Asp
		180						185				190			
Thr	Ile	Leu	Met	Leu	Met	Asn	Gly	Ser	Gly	Ile	Ile	Gly	Arg	Leu	Glu
		195						200				205			
Asn	Met	Pro	Leu	Phe	Phe	Arg	Lys	Met	Lys	Gln	Leu	Leu	Arg	Pro	Asp
		210						215				220			
Gly	Cys	Ile	Leu	Met	Asp	Ser	Ser	Asp	Leu	Arg	Tyr	Leu	Phe	Glu	Asp
		225						230			235			240	
Glu	Asp	Gly	Ser	Phe	Leu	Ile	Asp	Leu	Ala	Gly	Asp	Tyr	Tyr	Gly	Glu
		245						250				255			
Ile	Asp	Phe	Arg	Met	Gln	Tyr	Lys	Asp	Ile	Gln	Gly	Asp	Pro	Phe	Asp
		260						265				270			
Trp	Leu	Tyr	Ile	Asp	Phe	Gln	Thr	Leu	Ser	Ala	Tyr	Ala	Ala	Asp	Asn
		275						280				285			
Gly	Phe	Lys	Ala	Glu	Met	Ile	Lys	Glu	Gly	Lys	His	Tyr	Asp	Tyr	Leu
		290						295				300			
Ala	Arg	Leu	Thr	Val	Ala	Leu									
		305				310									

<210> 7062  
<211> 244  
<212> PRT  
<213> B.fragilis

<400> 7062

Asn	Leu	Phe	Ile	Lys	Glu	Arg	Ile	Tyr	Ile	Met	Lys	Lys	Val	Val	His
1		5						10					15		
Arg	Ser	Asp	Thr	Arg	Gly	Arg	Ser	Val	Tyr	Asp	Trp	Leu	Asp	Ser	His
		20						25				30			

His Ser Phe Ser Phe Asp Glu Tyr Tyr Asn Pro Glu Arg Val His Phe  
     35                 40                 45  
 Gly Ala Leu Arg Val Leu Asn Asp Asp Arg Val Ala Pro Gly Glu Gly  
     50                 55                 60  
 Phe Gln Thr His Pro His Lys Asn Met Glu Ile Val Ser Ile Pro Leu  
     65                 70                 75                 80  
 Lys Gly Leu Leu Ala His Gly Asp Ser Lys Lys Asn Ser Arg Thr Ile  
     85                 90                 95  
 Thr Val Gly Asp Ile Gln Val Met Ser Ala Gly Thr Gly Ile Tyr His  
    100             105             110  
 Ser Glu Met Asn Gly Ser Lys Ser Glu Pro Val Glu Phe Leu Gln Ile  
    115             120             125  
 Trp Ile Ile Pro Lys Glu Arg Asn Thr His Pro Leu Tyr Gln Asp Tyr  
    130             135             140  
 Asp Ile Arg Gly Leu Leu Lys Lys Asp Glu Leu Ala Phe Ile Leu Ser  
    145             150             155             160  
 Pro Asp Gly Ser Thr Pro Ala Lys Leu Leu Gln Asp Thr Trp Phe Ser  
    165             170             175  
 Met Gly Glu Ile Gly Ala Gly Lys Thr Val Glu Tyr Thr Leu His Gly  
    180             185             190  
 Thr Asp Met Gly Val Tyr Val Phe Leu Ile Glu Gly Glu Val Lys Ile  
    195             200             205  
 Asp Asp Val Ile Leu Thr Arg Arg Asp Gly Leu Gly Ile Ser Glu Ile  
    210             215             220  
 Lys Asn Phe Glu Ile Glu Thr Leu Lys Asp Ser Lys Ile Leu Leu Ile  
    225             230             235             240  
 Glu Val Pro Met

<210> 7063  
 <211> 198  
 <212> PRT  
 <213> B.fragilis

<400> 7063  
 Ile Ser Phe Leu Ile Arg Phe Phe Asp Ile Val Phe Ser Leu Leu Gly  
   1             5             10             15  
 Ile Leu Leu Leu Ser Pro Val Phe Leu Leu Leu Tyr Ile Ala Ile Cys  
   20             25             30  
 Leu Glu Ser Lys Gly Gly Phe Tyr Lys Gln Leu Arg Val Gly Arg  
   35             40             45  
 Tyr Gly Gly Asp Phe Tyr Val Tyr Lys Phe Arg Ser Met Arg Val Gly  
   50             55             60  
 Ala Asp Lys Lys Gly Leu Ile Thr Val Gly Gly Arg Asp Pro Arg Ile  
   65             70             75             80  
 Thr Arg Thr Gly Tyr Leu Ile Arg Lys Tyr Lys Leu Asp Glu Leu Pro  
   85             90             95  
 Gln Leu Phe Asn Val Leu Lys Gly Asp Met Ser Leu Val Gly Pro Arg  
   100            105            110  
 Pro Glu Val Arg Lys Tyr Val Asp Leu Tyr Thr Asp Glu Gln Lys Lys  
   115            120            125  
 Val Leu Ser Val Arg Pro Gly Ile Thr Asp Tyr Ala Ser Ile Glu Tyr  
   130            135            140  
 Val Asp Glu Asn Met Ile Leu Gly Glu Ala Ser Asp Pro Asp Arg Ala  
   145            150            155            160  
 Tyr Ile Glu Gln Ile Met Pro Asp Lys Ile Arg Tyr Asn Met Lys Tyr  
   165            170            175  
 Ile Cys Asn Arg Ser Val Lys Glu Tyr Phe Lys Ile Ile Phe Leu Thr  
   180            185            190

Phe Trp Ser Ile Ile Arg  
195

<210> 7064

<211> 372

<212> PRT

<213> B.fragilis

<400> 7064

Ser	Asn	Val	Met	Ile	Ile	Gly	Val	Pro	Lys	Glu	Ile	Lys	Asn	Asn	Glu
1				5					10				15		
Asn	Arg	Val	Gly	Met	Thr	Pro	Ser	Gly	Val	Ala	Glu	Leu	Val	Lys	Arg
				20				25				30			
Gly	His	Thr	Val	Tyr	Ile	Gln	His	Thr	Ala	Gly	Glu	Asn	Ser	Gly	Phe
				35				40			45				
Gln	Asp	Glu	Ala	Tyr	Thr	Ala	Val	Gly	Ala	Gln	Ile	Leu	Pro	Thr	Met
				50			55			60					
Glu	Glu	Thr	Tyr	Ala	Met	Ala	Gln	Met	Ile	Val	Lys	Val	Lys	Glu	Pro
	65			70				75			80				
Ile	Ala	Pro	Glu	Tyr	Arg	Leu	Ile	Arg	Lys	Gly	Gln	Val	Val	Phe	Thr
				85				90			95				
Tyr	Phe	His	Phe	Ala	Ser	Asp	Arg	Glu	Leu	Thr	Leu	Ala	Met	Ile	Glu
				100				105			110				
Asn	Gly	Ser	Val	Cys	Leu	Ala	Tyr	Glu	Thr	Val	Glu	Lys	Ala	Asp	His
				115				120			125				
Ser	Leu	Pro	Leu	Leu	Ile	Pro	Met	Ser	Glu	Val	Ala	Gly	Arg	Met	Ala
				130			135			140					
Ile	Gln	Glu	Gly	Ala	Arg	Phe	Leu	Glu	Lys	Pro	Gln	Gly	Gly	Lys	Gly
	145			150				155			160				
Ile	Leu	Pro	Gly	Gly	Val	Pro	Gly	Val	Lys	Pro	Ala	Lys	Val	Leu	Ile
				165				170			175				
Leu	Gly	Gly	Gly	Ile	Val	Gly	Ser	Asn	Ala	Ala	Gln	Met	Ala	Ala	Gly
				180				185			190				
Leu	Gly	Ala	Asp	Val	Thr	Ile	Ala	Asp	Ile	Asn	Leu	Ser	Arg	Leu	Arg
		195						200			205				
Tyr	Leu	Ser	Glu	Thr	Leu	Pro	Lys	Asn	Val	Lys	Thr	Leu	Tyr	Ala	Ser
				210			215			220					
Glu	Val	Arg	Leu	Lys	Lys	Glu	Leu	Pro	Asp	Val	Asp	Leu	Val	Val	Gly
	225				230				235			240			
Ser	Val	Leu	Ile	Pro	Gly	Asp	Lys	Ala	Pro	His	Leu	Ile	Thr	Arg	Asp
				245				250			255				
Met	Leu	Lys	Met	Met	Gln	Pro	Gly	Thr	Val	Leu	Val	Asp	Val	Ala	Ile
				260				265			270				
Asp	Gln	Gly	Gly	Cys	Phe	Glu	Thr	Ser	His	Pro	Thr	Thr	His	Ser	Glu
		275				280			285						
Pro	Thr	Tyr	Val	Val	Asp	Gly	Ile	Val	His	Tyr	Ala	Val	Ala	Asn	Ile
		290				295			300						
Pro	Gly	Ala	Val	Pro	Tyr	Thr	Ser	Thr	Leu	Ala	Leu	Thr	Asn	Ala	Thr
	305					310			315			320			
Leu	Pro	Tyr	Val	Ile	Ala	Leu	Ala	Asn	Lys	Gly	Trp	Arg	Lys	Ala	Cys
				325				330			335				
Lys	Lys	Asp	Pro	Ala	Leu	Ala	Leu	Gly	Leu	Asn	Val	Val	Glu	Gly	Lys
				340				345			350				
Val	Val	Tyr	Arg	Ala	Ile	Ala	Asp	Val	Phe	Gly	Leu	Lys	Tyr	Glu	Gln
				355				360			365				
Leu	Asn	Leu	Glu												
			370												

<210> 7065

<211> 250  
<212> PRT  
<213> B.fragilis

<400> 7065

Ile	Gly	Tyr	Met	Lys	His	Ile	Phe	Asn	Lys	Glu	Gln	Cys	Gln	Lys	Ala
1			5						10					15	
Thr	Phe	Ile	Leu	Glu	Ser	Pro	Leu	Ala	Lys	Leu	Ser	Glu	Leu	Tyr	Ser
			20						25					30	
Ser	Glu	Ile	Lys	Asp	Leu	Ala	Val	Val	Trp	Cys	Tyr	Tyr	Ser	Gly	Arg
			35						40					45	
Ile	Glu	Gly	Asn	Thr	Tyr	Thr	Tyr	Val	Glu	Thr	Glu	Ala	Leu	Leu	Lys
			50						55					60	
Asp	Gly	Ile	Thr	Ser	Glu	Lys	Tyr	Glu	Asp	Ala	Lys	Met	Leu	Lys	
			65						70					80	
Asn	Leu	Tyr	Asn	Thr	Phe	Ile	Ser	Glu	Leu	Glu	Tyr	Ile	His	Gln	Glu
									85					95	
Lys	Asn	Lys	Glu	Ile	Ile	Asp	Glu	Arg	Thr	Leu	Phe	Arg	Leu	His	Gln
									100					110	
Ser	Ile	Ser	Thr	Gly	Leu	Val	Ser	Asn	Glu	Glu	Ser	Gly	Phe	Leu	Arg
									115					125	
Thr	Arg	Ala	Val	Arg	Ile	Ser	Gly	Thr	Asp	Tyr	Ala	Pro	Pro	Lys	Asp
									130					140	
Leu	Gln	Glu	Ile	Lys	Ser	Lys	Leu	Gly	Glu	Ile	Leu	Tyr	Glu	Gln	Asp
									145					160	
Val	Tyr	Thr	Asn	Pro	Leu	Glu	Lys	Ala	Val	Phe	Leu	His	Cys	Asn	Ile
									165					175	
Ala	Arg	Leu	Gln	Pro	Phe	Ile	Asp	Gly	Asn	Lys	Arg	Thr	Ser	Arg	Met
									180					190	
Ile	Glu	Ser	Val	Val	Met	Met	Asn	Ala	Asp	Ile	Ile	Pro	Val	Tyr	Ser
									195					205	
Ala	Lys	Asp	Ala	Asp	Ile	Leu	Asn	Tyr	Arg	Lys	Gly	Leu	Ile	Arg	Phe
									210					220	
Tyr	Glu	Thr	Gly	Asp	Tyr	Thr	Lys	Tyr	Ser	Asp	Tyr	Phe	Leu	Asn	Arg
									225					240	
Gln	Leu	Glu	Arg	Ile	Lys	Glu	Ile	Asp	Ile						
									245					250	

<210> 7066  
<211> 608  
<212> PRT  
<213> B.fragilis

<400> 7066

Ile	Arg	Asp	Met	Arg	Lys	Leu	Leu	Tyr	Val	Ile	Leu	Leu	Leu	Phe	
1			5						10					15	
Arg	Leu	Leu	Met	Phe	Pro	Gly	Ala	Val	Cys	Ala	Glu	Ile	Ser	Leu	
									20					30	
Pro	Asp	Ser	Leu	Ile	Thr	Asp	Asp	Asn	Val	Tyr	Lys	Tyr	Thr	Phe	Ser
									35					45	
Asp	Phe	Asp	Lys	Ala	Gln	Gln	Val	Met	Glu	Gln	Leu	Arg	Lys	Arg	Lys
									50					60	
Ser	Leu	Ser	Met	Phe	Arg	Met	Asp	Val	Val	Glu	Gly	Asp	Leu	Tyr	Phe
									65					80	
Asn	Val	Gly	Gln	Tyr	Tyr	Lys	Ala	Leu	Lys	Phe	Tyr	Lys	Arg	Ala	Leu
									85					95	
Asp	Ser	Asp	Ser	Val	Arg	Asn	Asn	Asp	Lys	Asn	Tyr	Met	Glu	Gln	Val
									100					110	
His	Arg	Met	Ile	Ser	Cys	Tyr	Asp	Cys	Leu	His	Asn	Glu	Asn	Lys	Lys

115	120	125
Ser Leu Tyr Val Tyr Leu	Leu Leu Lys Arg Ala Glu Gln Cys Gly Asp	
130	135	140
Lys Ala Met Gln Ser Val	Ala Leu Phe Asn Met Gly Lys Met Leu Tyr	
145	150	155
Tyr Gln Gly Asn Lys Glu	Lys Gly Tyr Glu Tyr Leu Glu Gln Ala Ile	
165	170	175
Glu Met Met Ser Lys Thr Asp Tyr Arg Tyr Lys Tyr Asp Asn Leu Arg		
180	185	190
Tyr Asp Tyr Asn Thr Leu Leu Ile Phe Gln Lys Ser Asp Arg Arg Asn		
195	200	205
Glu Glu Ala Leu Arg Thr Leu Ala Ala Leu Glu Lys Val Val Thr Glu		
210	215	220
Glu Thr Gly Ser Glu Thr Pro Met Glu Gly Leu Ser Ala Lys Glu Lys		
225	230	235
Lys Ala Met Tyr Ala His Tyr Ala Val Val Leu Phe Arg Leu Gly Gln		
245	250	255
Ala Glu Glu Ala Glu Arg Tyr Tyr Arg Lys Phe Leu Ala Ala Ser Glu		
260	265	270
Glu Tyr Asp Arg Asp Asp Tyr Leu Ile Met Pro Tyr Leu Phe Asp Arg		
275	280	285
Lys Met Tyr Asp Gln Val Ile Arg Met Asn Ala Ala Arg Glu Lys Met		
290	295	300
Tyr Ile Met Arg Gly Asp Thr Val Asn Tyr Tyr Met Thr Thr Ile Lys		
305	310	315
Arg Ser Leu Gly Trp Ala Tyr Arg Asp Lys Gly Asp Tyr Arg Thr Ala		
325	330	335
Ala Arg Tyr Phe Glu Gln Leu Ala Val Leu Arg Asp Ser Ile Lys Asn		
340	345	350
Arg Glu Gln Lys Ser Ala Ala Leu Glu Leu Ala Ala Val Tyr Glu Thr		
355	360	365
Asn Glu Lys Asp Leu Phe Ile Gln Gln Ala Ala Asp Met Gln Lys		
370	375	380
Arg Asn Leu Leu Leu Val Phe Thr Leu Cys Ile Val Phe Leu Leu Gly		
385	390	395
Val Leu Leu Trp Arg Thr Ile Arg His Asn Arg Ile Ile Arg Arg Lys		
405	410	415
Asn Lys Ala Met Val Gly Thr Ile Glu Asp Leu Leu Ile His Lys Glu		
420	425	430
Glu Leu Tyr Arg Lys Lys Glu Glu Asn Leu Ile Leu Lys Glu Gln Leu		
435	440	445
Glu Arg Glu Gln Asn Leu Arg Met Ser Ala Gly Gly Ser Leu Ser		
450	455	460
Thr Asp Lys Asp Gly Lys Ala Glu Thr Thr Val Val Pro Glu Pro Gln		
465	470	475
Ala Gly Asp Gly Asn Asp Ile His Asp Arg Ile Leu Phe Asp Lys Leu		
485	490	495
Glu His Glu Ile Ile Ser Arg Gln Leu Tyr Leu Gln Pro Asp Phe Ser		
500	505	510
Arg Glu Glu Leu Ile Lys Thr Ile Tyr Ile Pro Lys Asn Lys Phe Ala		
515	520	525
Pro Leu Phe Lys Gln Tyr Ala Gly Met Ser Phe Ser Lys Tyr Ile Asn		
530	535	540
Asn Leu Arg Leu Glu Tyr Ala Ala Lys Met Leu Lys Asn His Pro Asp		
545	550	555
Tyr Thr Val Asp Thr Ile Ala Gln Glu Cys Gly Met Ser Thr Gln Ser		
565	570	575
Leu Tyr Arg Leu Phe Ser Gly Lys Tyr Gly Val Thr Pro Thr Asp Phe		
580	585	590

Gln Val Gly Val Gln His Ile Asn Asn Lys Asn Ile Thr Glu Asp Lys  
 595 600 605

<210> 7067

<211> 261

<212> PRT

<213> B.fragilis

<400> 7067

Ser Tyr Thr Ile Lys Thr Glu Met Lys Ile Ser Ile Ile Thr Val Thr  
 1 5 10 15  
 Phe Asn Ser Glu Lys Thr Ile Asn Asp Thr Ile Gln Ser Val Leu Met  
 20 25 30  
 Gln Ser Tyr Ser Asn Ile Glu Tyr Ile Ile Asp Gly Lys Ser Asn  
 35 40 45  
 Asp Ser Thr Leu Gly Ile Val Lys Glu Tyr Ile Pro Leu Phe Ser Gly  
 50 55 60  
 Arg Leu Lys Tyr Ile Ser Glu Lys Asp Ser Gly Ile Tyr Asp Ala Met  
 65 70 75 80  
 Asn Lys Gly Ile Lys Leu Ala Ser Gly Asp Ile Ile Gly Ile Ile Asn  
 85 90 95  
 Ser Asp Asp Phe Tyr Lys Ser Asn Asn Val Ile Ala Ser Val Ala Asn  
 100 105 110  
 Ala Phe Asn Asp Asn Ser Ile Glu Val Val Phe Gly Asn Ile Gln Phe  
 115 120 125  
 Val Asn Pro Asn Asn Lys Thr Arg Ile Val Arg Lys Tyr Ser Gly Lys  
 130 135 140  
 Gly Phe Arg Pro Trp Met Phe Arg Trp Gly Ile Met Pro Pro His Pro  
 145 150 155 160  
 Ser Phe Phe Thr Arg Lys Ser Cys Tyr Glu Lys Tyr Gly Met Tyr Asn  
 165 170 175  
 Ser Thr Phe Asn Ile Ser Gly Asp Tyr Asp Leu Met Val Arg Phe Leu  
 180 185 190  
 Leu Val Lys Lys Leu Lys Tyr Lys Tyr Met Asp Leu Asp Met Val Ile  
 195 200 205  
 Met Arg Leu Gly Gly Ala Ser Thr Lys Ser Ile Arg Ser Leu Leu Ile  
 210 215 220  
 Asn Asn Asn Tyr Asn Val Ile Arg Ala Cys Arg Glu Asn Gly Val Tyr  
 225 230 235 240  
 Thr Asn Ile Phe Met Val Ser Leu Arg Tyr Ile Lys Lys Ile Ser Glu  
 245 250 255  
 Leu Ile Phe Lys Val  
 260

<210> 7068

<211> 490

<212> PRT

<213> B.fragilis

<400> 7068

Ala Asn Tyr Met Lys Gln Tyr Ile Val Ala Leu Met Leu Ala Cys Ser  
 1 5 10 15  
 Ile Gln Gly His Ser Gln Asp Val Lys Gln Ala Thr Phe Val Pro Pro  
 20 25 30  
 Phe Asp Phe Thr Leu Thr Leu Ser Gly Asn Phe Gly Glu Ile Arg Ala  
 35 40 45  
 Asn His Phe His Gly Gly Leu Asp Phe Lys Thr Gln Gly Val Ile Gly  
 50 55 60  
 Lys Pro Val Arg Ala Leu Ala Asp Gly Tyr Ile Ser Arg Ile Arg Val

65	70	75	80
Thr Asn Gly Ser Gly His Val Leu Asp Val Val Tyr Asn Asn Gly Tyr			
85	90	95	
Thr Thr Ile Asn Arg His Leu Ser Gly Phe Met Pro Asp Ile Ala Arg			
100	105	110	
Arg Val Glu Lys Leu Gln Tyr Glu Lys Glu Asp Trp Glu Val Glu Ile			
115	120	125	
Val Pro Glu Pro Gly Glu Tyr Pro Val Lys Ala Gly Gln Gln Ile Ala			
130	135	140	
Trp Ser Gly Asn Thr Gly Tyr Ser Phe Gly Pro His Leu His Leu Asp			
145	150	155	160
Val Met Glu Thr Ala Thr Gly Glu Ser Ile Asp Pro Met Pro Phe Phe			
165	170	175	
Lys Ser Lys Ile Lys Asp Asn Thr Ala Pro Arg Ala Glu Gly Ile Met			
180	185	190	
Leu Phe Pro Gln Pro Gly Ser Gly Val Val Gly Gly Ser Pro Glu Arg			
195	200	205	
Gln Ser Phe Pro Ile Asn Thr Ala Arg Pro Ile Glu Ala Trp Gly Val			
210	215	220	
Ile Gly Ser Gly Ile Lys Ala Tyr Asp Tyr Met Asp Gly Val His Asn			
225	230	235	240
Arg Tyr Gly Val His Thr Val Val Leu Arg Val Asp Gly Thr Glu Val			
245	250	255	
Phe Arg Ser Val Val Asp Arg Phe Ser Gln Asp Glu Asn Arg Met Ile			
260	265	270	
Asn Ser Trp Thr Cys Gly Gln Tyr Met Lys Ser Phe Ile Asp Pro Gly			
275	280	285	
Asn Thr Leu Arg Met Leu Arg Ala Ser Asn Asp Asn Arg Gly Leu Val			
290	295	300	
Thr Ile Asp Glu Glu Arg Asp Tyr Lys Phe Glu Tyr Glu Leu Lys Asp			
305	310	315	320
Ala Phe Gly Asn Thr Ser Arg Tyr Arg Phe Thr Val Arg Gly Lys Arg			
325	330	335	
Gln Pro Ile Gln Pro Leu Gly His Arg Glu Lys Tyr Phe Phe Ala Trp			
340	345	350	
Asp Lys Thr Asn Phe Leu Gln Glu Pro Gly Leu Thr Leu Thr Val Pro			
355	360	365	
Arg Gly Met Leu Tyr Asp Asn Val Pro Leu Asn Tyr Glu Val His Ser			
370	375	380	
Asp Ser Gly Ala Ile Ala Tyr Thr Tyr Gln Leu Asn Asp Glu Lys Val			
385	390	395	400
Pro Leu His Gly Gly Cys Glu Leu Arg Ile Gly Leu Arg Arg Gln Pro			
405	410	415	
Val Ala Asp Ser Thr Lys Tyr Tyr Val Ala Arg Val Thr Pro Lys Gly			
420	425	430	
Ser Met Tyr Ser Ala Gly Gly Thr Tyr Glu Asp Gly Phe Met Lys Thr			
435	440	445	
Arg Ile Arg Glu Leu Gly Thr Tyr Thr Val Ala Val Asp Thr Val Pro			
450	455	460	
Pro Glu Ile Thr Pro Val Gly Lys Asn Thr Trp Gly Arg Asn Gly Lys			
465	470	475	480
Ser Ser Pro Arg Gly Trp Lys Asp Gln Arg			
485	490		

&lt;210&gt; 7069

&lt;211&gt; 282

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7069

Ile Lys Pro Met Asn Glu Leu Ile Asp Arg Leu Ile Asp Leu Ala Phe  
 1 5 10 15  
 Ala Glu Asp Ile Gly Asp Gly Asp His Thr Thr Leu Ser Cys Ile Pro  
 20 25 30  
 Ala Thr Ala Met Gly Lys Ser Lys Leu Leu Ile Lys Glu Ala Gly Val  
 35 40 45  
 Leu Ala Gly Ile Glu Ile Ala Lys Glu Ile Phe His Arg Phe Asp Pro  
 50 55 60  
 Thr Met Lys Val Glu Val Phe Ile Asn Asp Gly Ala Glu Val Lys Pro  
 65 70 75 80  
 Gly Asp Val Ala Met Ile Val Glu Gly Lys Ile Gln Ser Leu Leu Gln  
 85 90 95  
 Thr Glu Arg Leu Met Leu Asn Val Met Gln Arg Met Ser Gly Ile Ala  
 100 105 110  
 Thr Met Thr Arg Lys Tyr Val Lys Gln Leu Glu Gly Thr Lys Thr Arg  
 115 120 125  
 Val Leu Asp Thr Arg Lys Thr Thr Pro Gly Leu Arg Met Leu Glu Lys  
 130 135 140  
 Ala Ala Val Lys Ile Gly Gly Val Asn His Arg Ile Gly Leu Phe  
 145 150 155 160  
 Asp Met Ile Leu Leu Lys Asp Asn His Val Asp Phe Ala Gly Ile  
 165 170 175  
 Asp Lys Ala Ile Asn Arg Ala Lys Glu Tyr Cys Lys Glu Lys Gly Lys  
 180 185 190  
 Asp Leu Lys Ile Glu Ile Glu Val Arg Asn Phe Asp Glu Leu Arg Gln  
 195 200 205  
 Val Leu Ser Ile Gly Gly Val Asp Arg Ile Met Leu Asp Asn Phe Thr  
 210 215 220  
 Pro Glu Asn Thr Lys Lys Ala Val Glu Met Ile Gly Gly Lys Tyr Glu  
 225 230 235 240  
 Thr Glu Ser Ser Gly Gly Ile Thr Phe Asp Thr Leu Arg Asp Tyr Ala  
 245 250 255  
 Glu Cys Gly Val Asp Phe Ile Ser Val Gly Ala Leu Thr His Ser Val  
 260 265 270  
 Lys Gly Leu Asp Met Ser Phe Lys Ala Cys  
 275 280

&lt;210&gt; 7070

<211> 230  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7070

Lys Thr Gly Ile Met Lys Glu Lys Val Ser Val Pro Phe Met Leu Leu  
 1 5 10 15  
 Gly Ile Leu Phe Asn Val Cys Leu Ile Ala Ala Asn Leu Leu Glu Thr  
 20 25 30  
 Lys Val Ile Gln Val Gly Ser Ile Thr Val Thr Ala Gly Leu Leu Val  
 35 40 45  
 Phe Pro Ile Ser Tyr Ile Ile Asn Asp Cys Ile Ala Glu Val Trp Gly  
 50 55 60  
 Phe Lys Lys Ala Arg Leu Ile Ile Trp Ser Gly Phe Ala Met Asn Phe  
 65 70 75 80  
 Phe Val Val Ala Leu Gly Leu Ile Ala Val Ala Leu Pro Ala Ala Pro  
 85 90 95  
 Phe Trp Glu Gly Glu Gln His Phe Asp Phe Val Phe Gly Met Ala Pro  
 100 105 110  
 Arg Ile Val Val Ala Ser Leu Leu Ala Phe Leu Val Gly Ser Phe Leu

115	120	125
Asn Ala Tyr Val Met Ser Lys Met Lys Val Ala Ser Gly Gly Arg Asn		
130	135	140
Phe Ser Ala Arg Ala Ile Trp Ser Thr Val Val Gly Glu Thr Ala Asp		
145	150	155
Ser Leu Ile Phe Phe Pro Ile Ala Phe Gly Gly Leu Ile Ala Trp Pro		
165	170	175
Glu Leu Leu Val Met Met Gly Thr Gln Ile Val Leu Lys Ser Leu Tyr		
180	185	190
Glu Val Ile Ile Leu Pro Ile Thr Ile Arg Val Val Lys Ala Val Lys		
195	200	205
Arg Ile Asp Gly Ser Asp Val Tyr Asp Thr Asp Ile Ser Tyr Asn Val		
210	215	220
Leu Lys Val Lys Asp Ile		
225	230	

&lt;210&gt; 7071

&lt;211&gt; 132

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7071

Lys Thr Asn Leu Glu Thr Met Glu Ile Lys Ser Arg Phe Asp His Phe		
1	5	10
Asn Ile Asn Val Thr Asp Leu Glu Arg Ser Ile Ala Phe Tyr Glu Lys		
20	25	30
Ala Leu Gly Leu Lys Glu His His Arg Lys Glu Ala Ala Asp Gly Ser		
35	40	45
Phe Ile Leu Val Tyr Leu Thr Asp Asn Thr Thr Gly Phe Leu Leu Glu		
50	55	60
Leu Thr Trp Leu Arg Asp His Thr Glu Ala Tyr Glu Leu Gly Glu Asn		
65	70	75
Glu Ser His Leu Cys Phe Arg Val Ala Gly Asp Tyr Asp Ala Val Arg		
85	90	95
Gln Tyr His Lys Glu Met Asp Cys Val Cys Phe Glu Asn Thr Ser Met		
100	105	110
Gly Leu Tyr Phe Ile Asn Asp Pro Asp Asp Tyr Trp Ile Glu Ile Leu		
115	120	125
Pro Glu Arg Leu		
130		

&lt;210&gt; 7072

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7072

Phe Tyr Asp Leu Lys Phe Asp Thr Met Phe Leu Ser Val His Met Ile		
1	5	10
Tyr Leu Leu Asp Val Pro Pro Tyr Asn Glu Thr Leu Asp Gly Asn Ala		
20	25	30
Thr Glu Tyr His Leu Tyr Ile Cys His Ile Tyr Pro Ile Ile Gln Cys		
35	40	45
Asn Asp His Val Tyr Tyr Asp Ile Pro Tyr Arg Val Phe		
50	55	60

&lt;210&gt; 7073

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7073

Ala	Thr	Cys	Phe	Ile	Leu	Phe	Leu	Glu	Asp	Thr	Leu	Arg	Gln	Leu	Leu
1				5				10							15
Ala	Arg	Ser	Arg	Tyr	Leu	Leu	Phe	Lys	Ala	Pro	Gly	Lys	Trp	Thr	Asp
				20				25							30
Ser	Gln	Lys	Arg	Arg	Ala	Gly	Ile	Leu	Phe	Lys	Gln	Phe	Pro	Asp	Ile
					35			40							45
Lys	Ala	Val	Cys	Tyr	Tyr	Ala	Leu	Arg	Trp	Gly	Lys	Ile	Phe	Thr	Asp
					50			55							60
Tyr	Ile	Asp	Lys	Asp	Val	Ala	Cys	Ala	Lys	Asn	Leu	Glu	Val	Gly	Val
					65			70			75				80
Lys	Asn	Arg	Thr	Phe	Ile	Met	Glu	Val	Cys	Cys	Ile				
					85				90						

&lt;210&gt; 7074

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7074

Lys	Glu	Ile	Val	Met	Ser	Gln	Leu	Tyr	Phe	Ser	Ser	Lys	Lys	Arg	Asn
1					5				10						15
Asn	Gly	Ser	Ile	Leu	Gln	Ile	Arg	Gly	His	Tyr	Tyr	Ala	Asn	Asn	Arg
					20				25						30
Asn	Asp	Cys	Phe	Gln	Pro	Ile	Gly	Gln	Leu	Ser	Pro	Ile	Ser	Phe	Ser
					35			40							45
Ala	Val	Lys	Gly	Asn	Gln	Leu	Leu	Ile	Thr	Leu	Asn	Val	Pro	Asp	Thr
					50			55							60
Trp	Cys	Asp	Lys	Ala	Gly	Asp	Gly	Ala	Trp	Phe	Ala	Ile	Ser	Val	Asn
					65			70			75				80
Asp	Glu	Ile	Lys	Ser	Arg	Gly	Val	Tyr	Tyr	Ser	Gly	Lys	Asp	Gly	Gln
					85			90							95
Arg	Val	Pro	Ile	Thr	Leu	Gln	Thr	Val	Val	Asp	Val	Glu	Glu	Asp	His
					100			105							110
Ser	Tyr	Ile	Ile	Lys	Gly	Leu	Trp	Cys	Asn	Glu	Ser	Gly	Thr	Glu	Asn
					115			120							125
Arg	Asn	Cys	Asn	Ile	Gly	Glu	Phe	Ser	Glu	Thr	Val	Leu	Thr	Val	Leu
					130			135							140
Val	Leu	Asp													
		145													

&lt;210&gt; 7075

&lt;211&gt; 85

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7075

Gly	Ala	Phe	Phe	Phe	Lys	Ala	Leu	Leu	Tyr	Asp	Leu	Thr	Lys	Leu	Ser
1					5				10						15
Phe	Asn	Asn	Trp	Tyr	Ser	Cys	Leu	Leu	Glu	Glu	Leu	Pro	Val	Asn	
					20			25						30	
Ser	Pro	Arg	Asn	Tyr	Ser	Ile	Lys	Ile	Ser	Leu	His	Tyr	Glu	Glu	Gln
					35			40							45
His	Ile	Thr	Ala	Val	Trp	Val	Tyr	Leu	Thr	Val	Lys	Phe	Glu	Glu	His
					50			55							60
Trp	Lys	Pro	Val	Asp	Val	Glu	Val	Glu	Phe	Arg	Cys	Lys	Phe	Lys	Glu
					65			70			75				80

Arg Lys Val Asp Gly  
85

<210> 7076

<211> 412

<212> PRT

<213> B.fragilis

<400> 7076

Leu	Tyr	Ala	Phe	Leu	Lys	Asn	Asn	Ile	Asn	Met	Leu	Asn	Val	Asp	Asn
1				5				10						15	
Phe	Ile	Gly	Asp	His	Ile	Thr	Phe	Arg	Arg	Ser	Ser	Met	Phe	Ala	Pro
					20			25						30	
Asp	Ile	Ala	Ala	Asn	Ser	Asp	Arg	Leu	Arg	Gln	Glu	Val	Glu	Gly	Lys
					35			40					45		
Ser	Leu	Leu	Val	Ile	Gly	Gly	Ala	Gly	Ser	Ile	Gly	Ser	Ser	Tyr	Ile
					50			55					60		
Lys	Ala	Ile	Leu	Pro	Phe	Lys	Pro	Ser	Lys	Leu	Val	Val	Ile	Asp	Leu
					65			70			75			80	
Asn	Glu	Asn	Gly	Leu	Ala	Glu	Leu	Thr	Arg	Asp	Leu	Arg	Ser	Thr	Tyr
					85			90					95		
Gly	Leu	Tyr	Ile	Pro	Asp	Glu	Tyr	Arg	Thr	Tyr	Thr	Leu	Asn	Phe	Ala
					100			105					110		
Asp	Pro	Ile	Phe	Glu	Arg	Met	Phe	Arg	Lys	Glu	Gln	Gly	Phe	Asp	Ile
					115			120					125		
Val	Ala	Asn	Phe	Ser	Ala	His	Lys	His	Val	Arg	Ser	Glu	Lys	Asp	Glu
					130			135					140		
Tyr	Ser	Val	Gln	Ala	Leu	Ile	Glu	Asn	Asn	Val	Ile	Lys	Ala	Lys	Lys
					145			150			155			160	
Leu	Leu	Asp	Leu	Leu	Ser	Glu	Phe	Pro	Pro	Arg	His	Phe	Phe	Cys	Val
					165			170			175				175
Ser	Thr	Asp	Lys	Ala	Ala	Asn	Pro	Val	Asn	Ile	Met	Gly	Ala	Ser	Lys
					180			185					190		
Arg	Ile	Met	Glu	Asp	Met	Ile	Met	Ala	Tyr	Ser	Ser	Lys	Phe	Lys	Val
					195			200					205		
Thr	Thr	Ala	Arg	Phe	Ala	Asn	Val	Ala	Phe	Ser	Asn	Gly	Ser	Leu	Leu
					210			215					220		
Ala	Gly	Phe	Ile	Asp	Arg	Ile	Met	Lys	Lys	Gln	Pro	Leu	Ala	Ala	Pro
					225			230			235			240	
Asn	Asp	Val	Lys	Arg	Tyr	Phe	Val	Ser	Pro	Glu	Glu	Ser	Gly	Gln	Ile
					245			250					255		
Cys	Met	Leu	Ala	Cys	Val	Leu	Gly	Asn	Asn	Gly	Ile	Phe	Phe	Pro	
					260			265					270		
Lys	Leu	Gly	Glu	Glu	Lys	Met	Ile	Thr	Phe	Ser	Ser	Ile	Cys	Asp	Arg
					275			280					285		
Phe	Leu	Arg	Thr	Leu	Gly	Tyr	Glu	Lys	Lys	Glu	Cys	Ala	Thr	Asp	Glu
					290			295					300		
Glu	Ala	Arg	Arg	Tyr	Ala	Ala	Glu	Met	Ala	Asp	Asp	Ser	Lys	Ile	Tyr
					305			310			315			320	
Pro	Val	Val	Tyr	Phe	Lys	Ser	Asp	Thr	Thr	Gly	Glu	Lys	Gly	Tyr	Glu
					325			330					335		
Glu	Phe	Tyr	Val	Pro	Gly	Glu	Arg	Leu	Asn	Leu	Glu	Arg	Phe	Ser	Ser
					340			345					350		
Leu	Gly	Val	Ile	Glu	Asp	Val	Ser	Lys	Arg	Pro	Leu	Ser	Glu	Leu	Asp
					355			360					365		
Ser	Phe	Phe	Asp	Asp	Leu	Glu	Ser	Leu	Phe	Ala	Leu	Pro	Asp	Cys	His
					370			375					380		
Lys	Ser	Asp	Ile	Val	Thr	Ala	Leu	Lys	Arg	Phe	Leu	Pro	Asn	Phe	Glu
					385			390			395			400	

His Val Glu Lys Gly Lys Asn Leu Asp Gln Lys Met  
405 410

<210> 7077

<211> 501

<212> PRT

<213> B.fragilis

<400> 7077

Met	Arg	Lys	Leu	Phe	Leu	Ile	Ser	Ile	Gly	Leu	Leu	Ile	Val	Ser	Thr
1				5				10					15		
Ser	Thr	Phe	Ala	Gly	Gly	Leu	Leu	Thr	Asn	Thr	Asn	Gln	His	Val	Leu
				20				25				30			
Phe	Leu	Arg	Met	Leu	Ala	Arg	Asp	Ala	Ser	Thr	Gln	Ile	Asp	Ala	Val
				35				40			45				
Tyr	Ser	Asn	Pro	Ala	Gly	Val	Ala	Phe	Met	Glu	Asn	Gly	Phe	His	Leu
				50				55			60				
Ser	Leu	Asn	Gly	Gln	Ser	Ala	Phe	Gln	Thr	Arg	Thr	Ile	Thr	Ser	Thr
				65				70		75		80			
Phe	Ala	Pro	Phe	Ala	Gly	Phe	Gly	Gly	Asn	Ala	Thr	Lys	Val	Tyr	Lys
				85				90			95				
Gly	Glu	Ala	Ser	Ala	Pro	Phe	Ile	Pro	Ser	Val	Phe	Ala	Val	Tyr	Lys
				100				105			110				
Lys	Asp	Lys	Trp	Ala	Phe	Ser	Gly	Asn	Phe	Ala	Val	Thr	Gly	Gly	Gly
				115				120			125				
Gly	Lys	Ala	Thr	Phe	Asn	Glu	Gly	Leu	Gly	Ser	Phe	Glu	Ser	Leu	Val
				130				135			140				
Ser	Val	Val	Pro	Gly	Met	Leu	Val	Ala	Ala	Gly	Asn	Glu	Met	Val	Asp
				145				150		155		160			
Lys	Gly	Val	Leu	Pro	Ile	Asn	Ile	Phe	Asn	Gly	Thr	Asn	Lys	Tyr	Ser
				165				170			175				
Val	Asp	Ser	Tyr	Met	Arg	Gly	Lys	Gln	Met	Ile	Phe	Gly	Leu	Gln	Leu
				180				185			190				
Gly	Ala	Thr	Tyr	Arg	Ile	Thr	Asp	Tyr	Leu	Ser	Ala	Phe	Ala	Gly	Val
				195				200			205				
Arg	Met	Asn	Tyr	Val	Ser	Asn	Gly	Tyr	Glu	Gly	His	Ile	Arg	Asn	Ile
				210				215			220				
Glu	Ala	Asn	Ile	Gly	Gly	Gly	Glu	Met	Val	Asn	Val	Asn	Lys	Tyr	Phe
				225				230		235			240		
Ser	Asp	Tyr	Ala	Lys	Gln	Ala	Arg	Thr	Ala	Ala	Asp	Ala	Tyr	Leu	Ala
				245				250			255				
Ala	Asn	Asp	Leu	Ala	Asn	Tyr	Ala	Lys	Tyr	Asp	Ala	Ile	Ala	Lys	Glu
				260				265			270				
Ala	Thr	Lys	Val	Ala	Gly	Leu	Thr	Ala	Asp	Lys	Glu	Leu	Asp	Cys	Asp
				275				280			285				
Gln	Thr	Gly	Trp	Gly	Val	Thr	Pro	Ile	Leu	Gly	Leu	Asp	Phe	Lys	Met
				290				295			300				
Asn	Lys	Trp	Asn	Ile	Gly	Val	Lys	Tyr	Glu	Phe	Asn	Thr	Lys	Leu	Asn
				305				310		315		320			
Val	Glu	Asn	Lys	Thr	Arg	Ile	Asp	Asn	Thr	Gly	Leu	Phe	Ala	Asn	Gly
				325				330			335				
Val	Asn	Thr	Pro	His	Asp	Ile	Pro	Ala	Leu	Leu	Thr	Val	Gly	Val	Ser
				340				345			350				
Tyr	Glu	Ile	Leu	Pro	Val	Leu	Arg	Ala	Ser	Val	Gly	Tyr	His	His	Phe
				355				360			365				
Phe	Asp	Thr	Asn	Ala	Arg	Met	Ala	Asp	Ala	Lys	Asp	Pro	Val	Thr	Gly
				370				375			380				
Gln	Thr	Met	Gly	Lys	Gln	His	Phe	Ile	Lys	Gln	Gly	Thr	Asn	Glu	Tyr
				385				390			395			400	

Leu Gly Gly Ile Glu Trp Asp Val Cys Lys Trp Ala Gln Val Ser Ala  
           405                  410                  415  
 Gly Met Gln Arg Thr Lys Tyr Gly Val Gly Asp Asn Tyr Gln Ser Asp  
           420                  425                  430  
 Met Ser Phe Ala Val Ser Ser Tyr Ser Tyr Gly Phe Gly Ala Gly Phe  
           435                  440                  445  
 Asp Ile Ala Lys Asn Leu Lys Leu Asn Val Ala Tyr Phe Trp Thr Asp  
           450                  455                  460  
 Tyr Asp Lys Tyr Thr Lys Glu Thr Pro Asn Tyr Gly Gly Thr Gly Ile  
           465                  470                  475                  480  
 Ala Gly Lys Asp Val Phe Thr Arg Thr Asn Lys Val Phe Gly Ile Gly  
           485                  490                  495  
 Leu Asp Tyr Lys Phe  
           500

<210> 7078  
 <211> 406  
 <212> PRT  
 <213> B.fragilis

<400> 7078

Lys	Ile	Pro	Ser	Gln	Phe	Arg	Thr	Arg	Gly	Glu	Arg	Lys	Glu	Ser	Gly
1				5				10				15			
Ser	Glu	Asn	Val	Met	Phe	Thr	Ser	Met	Tyr	Asn	Asn	Ile	Thr	Thr	Phe
				20				25				30			
Ile	His	Asn	Leu	Phe	Gly	Thr	Asp	Glu	Phe	Val	Pro	Leu	His	Ala	Pro
	35					40					45				
Leu	Phe	Ile	Gly	Asn	Glu	Lys	Lys	Tyr	Leu	Ala	Glu	Cys	Ile	Asp	Thr
	50					55					60				
Thr	Phe	Val	Ser	Ser	Val	Gly	Lys	Phe	Val	Asp	Arg	Phe	Glu	Glu	Gln
	65					70				75			80		
Val	Ala	Ser	Tyr	Thr	Gly	Ser	Lys	Arg	Ala	Val	Val	Cys	Val	Ser	Gly
						85				90			95		
Thr	Asn	Ala	Leu	His	Met	Gly	Met	Leu	Leu	Val	Gly	Val	Glu	Arg	Asp
					100				105			110			
Asp	Glu	Val	Leu	Thr	Gln	Ala	Leu	Thr	Phe	Ile	Ala	Thr	Cys	Asn	Ala
		115					120				125				
Ile	Ser	Tyr	Ile	Gly	Ala	His	Pro	Val	Phe	Leu	Asp	Val	Asp	Arg	Asp
	130						135				140				
Thr	Leu	Gly	Leu	Ser	Pro	Leu	Ala	Val	Lys	Arg	Trp	Leu	Ser	Gly	His
	145						150				155			160	
Ala	Glu	Val	Arg	Asn	Gly	Gln	Cys	Tyr	Asn	Lys	Lys	Thr	Gly	Arg	Arg
						165				170			175		
Ile	Lys	Ala	Cys	Val	Pro	Met	His	Thr	Phe	Gly	His	Pro	Met	Lys	Ile
					180				185			190			
Asp	Glu	Leu	Ser	Ala	Val	Cys	Asn	Glu	Tyr	His	Ile	Glu	Leu	Val	Glu
					195			200			205				
Asp	Ala	Ala	Glu	Ser	Ile	Gly	Ser	Phe	Tyr	Lys	Gly	Arg	His	Thr	Gly
						210		215			220				
Thr	Phe	Gly	Arg	Val	Gly	Ala	Ile	Ser	Phe	Asn	Gly	Asn	Lys	Thr	Ile
	225						230				235			240	
Thr	Thr	Gly	Gly	Gly	Met	Leu	Leu	Phe	Gln	Asp	Glu	Glu	Leu	Gly	
						245				250			255		
Lys	Phe	Ala	Lys	His	Leu	Thr	Thr	Gln	Ala	Lys	Val	Pro	His	Arg	Trp
						260				265			270		
Ala	Phe	Val	His	Asp	His	Ile	Gly	Tyr	Asn	Tyr	Arg	Met	Pro	Asn	Ile
						275			280			285			
Asn	Ala	Ala	Leu	Gly	Cys	Ala	Gln	Met	Glu	Asn	Leu	Asp	Arg	Tyr	Val
					290			295			300				

Ser Asn Lys Arg Glu Thr Ala Glu Arg Tyr Arg Glu Phe Phe Ser Arg  
 305 310 315 320  
 Ile Pro Asp Val Glu Phe Val Val Glu Pro Ala Asn Ser Arg Ser Asn  
 325 330 335  
 Tyr Trp Leu Asn Ala Val Leu Leu Lys Asp Arg Arg Ala Gln Gln Ser  
 340 345 350  
 Phe Leu Glu Tyr Thr Asn Asp His Gly Val Met Thr Arg Pro Val Trp  
 355 360 365  
 Glu Leu Met Asn Arg Leu Glu Met Phe Arg Gly Cys Glu Thr Asp Gly  
 370 375 380  
 Leu Glu Asn Thr Val Trp Leu Glu Glu Arg Ile Val Asn Ile Pro Ser  
 385 390 395 400  
 Ser Val Arg Leu Gly Val  
 405

<210> 7079

<211> 77

<212> PRT

<213> B.fragilis

<400> 7079

Leu Leu Arg Thr Glu Glu Leu Val Leu Lys Lys Tyr Leu Glu Asp Lys  
 1 5 10 15  
 Glu Gly Asp Met Ser Thr Ile Lys Ile Lys Gln Val Lys Ser Arg Ile  
 20 25 30  
 Gly Ala Pro Ala Asp Gln Lys Arg Thr Leu Asp Ala Leu Gly Leu Arg  
 35 40 45  
 Lys Leu Asn Arg Val Val Glu His Glu Ser Thr Pro Ser Ile Leu Gly  
 50 55 60  
 Met Val Asp Lys Val Lys His Leu Val Ala Ile Val Lys  
 65 70 75

<210> 7080

<211> 113

<212> PRT

<213> B.fragilis

<400> 7080

Arg Leu Leu Thr Val Arg Val Val Ile Leu Val Ser Ser Arg Leu Glu  
 1 5 10 15  
 Thr Val Trp Val Thr Met Leu Lys Cys Ala Ser Ser Asn Ser Leu Thr  
 20 25 30  
 Thr Thr Lys Thr Trp Leu Lys Arg Lys Leu Leu Arg Lys Gln Leu Val  
 35 40 45  
 Leu Val Val Gln Arg Lys Leu Leu Lys Leu Leu Pro Lys Tyr  
 50 55 60  
 Leu Gln Leu Lys Asn Arg Lys Leu Asn Gln Gln Asn Asn Ser Thr Ile  
 65 70 75 80  
 Ile Leu Ile Asp Ile Lys Lys Ala Ala Leu Lys Arg Val Ala Phe Phe  
 85 90 95  
 Val Asp Phe Thr Lys Asp Thr Leu Lys Thr Phe Glu Gly Glu Gln Ser  
 100 105 110

Asp

<210> 7081

<211> 616

<212> PRT

<213> B.fragilis

&lt;400&gt; 7081

Ile Tyr Tyr Phe Cys Gly Ser Asn Asn Gln Gly Asn Met Glu Gln Leu  
 1 5 10 15  
 Asn Leu Ile Ile Asp Thr Tyr Gln Arg Ile Ile Leu Glu Ser Glu Ser  
 20 25 30  
 Lys Leu Ala Lys Val Lys Gln His Ile Tyr Arg Ile Gly Thr Leu Arg  
 35 40 45  
 Leu Ile Leu Phe Ala Ala Gly Ile Ala Gly Ile Ile Tyr Phe Trp Asp  
 50 55 60  
 Glu Gly Arg Leu Val Ile Gly Gly Ile Ala Ala Ile Thr Phe Ile Pro  
 65 70 75 80  
 Phe Ile Leu Leu Val Lys Leu His Asn Arg Leu Phe His Gln Lys Asp  
 85 90 95  
 Tyr Leu Glu Lys Ile Glu Ile Asn Arg Gln Glu Leu Gln Ala Leu  
 100 105 110  
 Thr Tyr Asp Thr Ser Ala Phe Asp Asn Gly Glu Glu Phe Ile Asn Pro  
 115 120 125  
 Ser His Leu Tyr Thr Tyr Asp Leu Asp Val Phe Gly Glu His Ser Leu  
 130 135 140  
 Phe Gln Tyr Ile Asn Arg Thr Ala Thr Gln Pro Gly Lys Lys Arg Leu  
 145 150 155 160  
 Ala Glu Trp Met Asn Met His Leu Lys Ser Lys Ala Glu Ile Glu Lys  
 165 170 175  
 Arg Gln Glu Ala Val Arg Glu Leu Ala Pro Glu Leu Glu Met Arg Gln  
 180 185 190  
 His Phe Arg Val Leu Gly Leu Leu His Lys Gly Lys Thr Ala Asp Glu  
 195 200 205  
 Glu Glu Ile Arg Asn Trp Ala Ser Ser Pro Glu Tyr Tyr Arg Lys Lys  
 210 215 220  
 Trp Tyr Phe Arg Thr Leu Ala Ile Leu Ile Pro Thr Ala Asn Ala Val  
 225 230 235 240  
 Cys Ile Gly Leu Ala Ile Ala Gly Ile Ile Ser Phe Thr Thr Trp Gly  
 245 250 255  
 Ile Val Phe Ala Ser Ile Gly Leu Phe Ser Ser Ser Phe Ser Lys Gly  
 260 265 270  
 Ile Ser Arg Met Gln Ser Val Tyr Gly Lys Lys Met Leu Ile Leu Thr  
 275 280 285  
 Thr Tyr Ala Arg Leu Ile His Ile Ile Glu Glu Lys Lys Met Arg Cys  
 290 295 300  
 Ser Ala Leu Lys Glu Ile Lys Glu Leu Val Gly Gly Glu Lys Gln Thr  
 305 310 315 320  
 Ala Ser Gln Ala Val Lys Arg Leu Thr Glu Leu Met Asn Ala Leu Asp  
 325 330 335  
 Gln Arg Asn Asn Met Leu Met Gln Phe Val Leu Asn Gly Leu Phe Phe  
 340 345 350  
 Trp Glu Leu Arg Gln Val Met Lys Ile Glu Ala Trp Lys Glu Asn Tyr  
 355 360 365  
 Ala Ala His Leu Pro Asp Trp Leu Glu Ala Ile Gly Glu Met Asp Ala  
 370 375 380  
 Tyr Cys Ser Leu Ala Cys Phe Ala Tyr Asn His Pro Gly Tyr Val Phe  
 385 390 395 400  
 Pro Glu Ile Ala Ser Lys Pro Phe Cys Val Glu Ala Glu Ala Leu Gly  
 405 410 415  
 His Pro Leu Met Asn Arg Asn Lys Cys Val Arg Asn Asp Ile Arg Ile  
 420 425 430  
 Ala Lys Arg Pro Phe Phe Ile Ile Ile Thr Gly Ala Asn Met Ala Gly  
 435 440 445  
 Lys Ser Thr Tyr Leu Arg Thr Ile Gly Val Ser Tyr Leu Leu Ala Cys

450	455	460
Ile Gly Ala Pro Val Trp Ala Glu Lys Met Lys Leu Tyr Pro Ala Gln		
465	470	475
Leu Val Thr Ser Leu Arg Thr Thr Asp Ser Leu Ala Asp Asn Glu Ser		480
485	490	495
Tyr Phe Phe Ala Glu Leu Lys Arg Leu Lys Leu Ile Ile Asp Lys Leu		
500	505	510
Asn Ser Gly Glu Glu Leu Phe Ile Ile Leu Asp Glu Ile Leu Lys Gly		
515	520	525
Thr Asn Ser Met Asp Lys Gln Lys Gly Ser Phe Ala Leu Ile Lys Gln		
530	535	540
Phe Met Ala Leu Gln Ala Asn Gly Ile Ile Ala Thr His Asp Leu Leu		
545	550	555
Leu Gly Ser Leu Ile Asp Leu Phe Pro Lys Asp Ile His Asn Tyr Cys		560
565	570	575
Phe Glu Ala Asp Ile Thr Asn Asn Glu Leu Thr Phe Ser Tyr Lys Leu		
580	585	590
Arg Asp Gly Ile Ala Gln Asn Met Asn Ala Cys Phe Leu Met Lys Lys		
595	600	605
Met Gly Ile Ala Val Ile Asp Asp		
610	615	

&lt;210&gt; 7082

&lt;211&gt; 193

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7082

Glu Asp Lys Ala Met Ser Arg Ile Gly Lys Leu Pro Ile Ser Ile Pro		
1	5	10
Ala Gly Val Thr Val Thr Leu Lys Asp Asp Val Val Thr Val Lys Gly		15
20	25	30
Pro Lys Gly Glu Leu Ser Gln Tyr Val Asn Pro Ala Ile Asn Val Ala		
35	40	45
Ile Glu Asp Gly His Ile Thr Leu Thr Glu Asn Glu Asn Ala Met Leu		
50	55	60
Asp Asn Pro Lys Gln Lys His Ala Phe His Gly Leu Tyr Arg Ser Leu		
65	70	75
Val His Asn Met Val Val Gly Val Ser Glu Gly Tyr Lys Lys Glu Leu		80
85	90	95
Glu Leu Val Gly Val Gly Tyr Arg Ala Ser Asn Gln Gly Asn Ile Ile		
100	105	110
Glu Leu Ala Leu Gly Tyr Thr His Asn Ile Phe Ile Gln Leu Pro Pro		
115	120	125
Glu Val Lys Val Glu Thr Lys Ser Glu Arg Asn Lys Asn Pro Leu Ile		
130	135	140
Leu Leu Glu Ser Cys Asp Lys Gln Leu Leu Gly Gln Val Cys Ser Lys		
145	150	155
Ile Arg Ser Phe Arg Lys Pro Glu Pro Tyr Lys Gly Lys Gly Ile Lys		160
165	170	175
Phe Val Gly Glu Glu Ile Arg Arg Lys Ser Gly Lys Ser Ala Gly Ala		
180	185	190
Lys		

&lt;210&gt; 7083

&lt;211&gt; 203

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7083

Lys Glu Met Ala Arg Tyr Pro Gly Pro Lys Ser Arg Ile Ala Arg Lys  
 1 5 10 15  
 Phe Gly Glu Gly Ile Phe Gly Ala Asp Lys Val Leu Ser Lys Lys Asn  
 20 25 30  
 Tyr Pro Pro Gly Gln His Gly Asn Ser Arg Lys Arg Lys Thr Ser Glu  
 35 40 45  
 Tyr Gly Ile Gln Leu Arg Glu Lys Gln Lys Ala Lys Tyr Thr Tyr Gly  
 50 55 60  
 Val Leu Glu Lys Gln Phe Arg Asn Leu Phe Glu Lys Ala Ala Thr Ala  
 65 70 75 80  
 Lys Gly Ile Thr Gly Glu Val Leu Leu Gln Met Leu Glu Gly Arg Leu  
 85 90 95  
 Asp Asn Ile Val Phe Arg Leu Gly Ile Ala Pro Thr Arg Ala Ala Ala  
 100 105 110  
 Arg Gln Leu Val Gly His Lys His Ile Thr Val Asp Gly Gln Val Val  
 115 120 125  
 Asn Ile Pro Ser Tyr Ala Val Lys Pro Gly Gln Leu Ile Gly Val Arg  
 130 135 140  
 Glu Arg Ser Lys Ser Leu Glu Val Ile Ala Asn Ser Leu Ala Gly Phe  
 145 150 155 160  
 Asn His Ser Lys Tyr Ala Trp Leu Glu Trp Asp Glu Ala Ser Lys Val  
 165 170 175  
 Gly Lys Leu Leu His Ile Pro Glu Arg Ala Asp Ile Pro Glu Asn Ile  
 180 185 190  
 Lys Glu His Leu Ile Val Glu Leu Tyr Ser Lys  
 195 200

&lt;210&gt; 7084

<211> 162  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7084

Lys Met Arg His Asn Lys Lys Phe Asn His Leu Gly Arg Thr Ala Ser  
 1 5 10 15  
 His Arg Ser Ala Met Leu Ser Asn Met Ala Cys Ser Leu Ile Lys His  
 20 25 30  
 Lys Arg Ile Thr Thr Val Ala Lys Ala Lys Leu Lys Lys Phe  
 35 40 45  
 Val Glu Pro Leu Ile Thr Lys Ser Lys Glu Asp Thr Thr Asn Ser Arg  
 50 55 60  
 Arg Val Val Phe Ser Asn Leu Gln Asp Lys Leu Ala Val Thr Glu Leu  
 65 70 75 80  
 Phe Lys Glu Ile Ser Val Lys Ile Ala Asp Arg Pro Gly Gly Tyr Thr  
 85 90 95  
 Arg Ile Ile Lys Thr Gly Asn Arg Leu Gly Asp Asn Ala Glu Met Cys  
 100 105 110  
 Phe Ile Glu Leu Val Asp Tyr Asn Glu Asn Met Ala Lys Glu Lys Val  
 115 120 125  
 Ala Lys Lys Ala Thr Arg Thr Arg Arg Ser Lys Lys Thr Thr Glu Ala  
 130 135 140  
 Ala Pro Ala Ala Glu Val Pro Ala Thr Glu Glu Pro Lys Ala Glu Ser  
 145 150 155 160  
 Ala Glu

&lt;210&gt; 7085

<211> 335  
<212> PRT  
<213> B.fragilis

<400> 7085

Ile	Ile	Ile	Asn	Phe	Met	Ala	Ile	Leu	Ala	Phe	Gln	Lys	Pro	Asp	Lys
1				5				10					15		
Val	Leu	Met	Leu	Glu	Ala	Asp	Ala	Lys	Phe	Gly	Lys	Phe	Glu	Phe	Arg
				20				25					30		
Pro	Leu	Glu	Pro	Gly	Phe	Gly	Ile	Thr	Val	Gly	Asn	Ala	Leu	Arg	Arg
				35				40					45		
Ile	Leu	Leu	Ser	Ser	Leu	Glu	Gly	Phe	Ala	Ile	Thr	Thr	Ile	Arg	Ile
				50				55					60		
Glu	Gly	Val	Glu	His	Glu	Phe	Ser	Ser	Val	Pro	Gly	Val	Lys	Glu	Asp
				65				70					75		80
Val	Thr	Asn	Ile	Ile	Leu	Asn	Leu	Lys	Gln	Val	Arg	Phe	Lys	Gln	Val
				85				90					95		
Val	Glu	Glu	Phe	Glu	Ser	Glu	Lys	Val	Ser	Ile	Thr	Ile	Glu	Asn	Ser
				100				105					110		
Ser	Glu	Phe	Lys	Ala	Gly	Asp	Ile	Gly	Lys	Tyr	Leu	Thr	Gly	Phe	Glu
				115				120					125		
Val	Leu	Asn	Pro	Glu	Leu	Val	Ile	Cys	His	Leu	Asp	Ser	Lys	Ala	Thr
				130				135					140		
Met	Gln	Ile	Asp	Ile	Thr	Ile	Asn	Lys	Gly	Arg	Gly	Tyr	Val	Pro	Ala
				145				150					155		160
Asp	Glu	Asn	Arg	Glu	Tyr	Cys	Thr	Asp	Val	Asn	Val	Ile	Pro	Ile	Asp
				165				170					175		
Ser	Ile	Tyr	Thr	Pro	Ile	Arg	Asn	Val	Lys	Tyr	Ala	Val	Glu	Asn	Phe
				180				185					190		
Arg	Val	Glu	Gln	Lys	Thr	Asp	Tyr	Glu	Lys	Leu	Val	Leu	Glu	Ile	Thr
				195				200					205		
Thr	Asp	Gly	Ser	Ile	His	Pro	Lys	Glu	Ala	Leu	Lys	Glu	Ala	Ala	Lys
				210				215					220		
Ile	Leu	Ile	Tyr	His	Phe	Met	Leu	Phe	Ser	Asp	Glu	Lys	Ile	Thr	Leu
				225				230					235		240
Glu	Ser	Asn	Asp	Val	Asp	Gly	Asn	Glu	Glu	Phe	Asp	Glu	Glu	Val	Leu
				245				250					255		
His	Met	Arg	Gln	Leu	Leu	Lys	Thr	Lys	Leu	Val	Asp	Met	Asp	Leu	Ser
				260				265					270		
Val	Arg	Ala	Leu	Asn	Cys	Leu	Lys	Ala	Ala	Asp	Val	Glu	Thr	Leu	Gly
				275				280					285		
Asp	Leu	Val	Gln	Phe	Asn	Lys	Thr	Asp	Leu	Leu	Lys	Phe	Arg	Asn	Phe
				290				295					300		
Gly	Lys	Lys	Ser	Leu	Thr	Glu	Leu	Asp	Asp	Leu	Leu	Glu	Ser	Leu	Asn
				305				310					315		320
Leu	Ser	Phe	Gly	Thr	Asp	Ile	Ser	Lys	Tyr	Lys	Leu	Asp	Lys	Glu	
				325				330					335		

<210> 7086  
<211> 149  
<212> PRT  
<213> B.fragilis

<400> 7086

Ile	Tyr	Cys	Leu	Asn	Ile	Val	Arg	Val	Val	Leu	Ile	Asn	Leu	Ile	Ile
1					5				10				15		
Phe	Tyr	Met	Thr	Asp	Pro	Ile	Ala	Asp	Tyr	Leu	Thr	Arg	Leu	Arg	Asn
					20				25				30		
Ala	Ile	Asn	Ala	Lys	His	Arg	Val	Val	Glu	Val	Pro	Ala	Ser	Asn	Leu

35	40	45
Lys Lys Glu Ile Thr Lys Ile Leu Phe Glu Lys Gly Tyr Ile Leu Asn		
50	55	60
Tyr Lys Phe Val Glu Asp Gly Pro Gln Gly Thr Ile Lys Val Ala Leu		
65	70	75
Lys Tyr Asp Ser Val Asn Lys Val Asn Ala Ile Lys Lys Leu Glu Arg		
85	90	95
Ile Ser Ser Pro Gly Met Arg Gln Tyr Thr Gly Tyr Lys Asp Met Pro		
100	105	110
Arg Val Ile Asn Gly Leu Gly Ile Ala Ile Ile Ser Thr Ser Lys Gly		
115	120	125
Val Met Thr Asn Lys Glu Ala Ala Glu Leu Lys Ile Gly Gly Glu Val		
130	135	140
Leu Cys Tyr Val Tyr		
145		

&lt;210&gt; 7087

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7087

Val Met Ser Asn Thr Ala Ser Leu Lys Lys Glu Tyr Ala Glu Arg Ile		
1	5	10
Ala Pro Ala Leu Lys Ser Gln Phe Gln Tyr Ser Ser Thr Met Gln Ile		
20	25	30
Pro Val Leu Lys Lys Ile Val Ile Asn Gln Gly Leu Gly Met Ala Val		
35	40	45
Ala Asp Lys Lys Ile Ile Glu Val Ala Ile Asn Glu Met Thr Ala Ile		
50	55	60
Thr Gly Gln Lys Ala Val Ala Thr Ile Ser Arg Lys Asp Ile Ala Asn		
65	70	75
Phe Lys Leu Arg Lys Lys Met Pro Ile Gly Val Met Val Thr Leu Arg		
85	90	95
Arg Glu Arg Met Tyr Glu Phe Leu Glu Lys Leu Val Arg Val Ala Leu		
100	105	110
Pro Arg Ile Arg Asp Phe Lys Gly Ile Glu Thr Lys Phe Asp Gly Lys		
115	120	125
Gly Asn Tyr Thr Leu Gly Ile Gln Glu Gln Ile Ile Phe Pro Glu Ile		
130	135	140
Asn Ile Asp Ser Ile Thr Arg Ile Leu Gly Met Asn Ile Thr Phe Val		
145	150	155
Thr Ser Ala Gln Thr Asp Glu Glu Gly Tyr Ala Leu Leu Lys Glu Phe		
165	170	175
Gly Leu Pro Phe Lys Asn Ala Lys Lys Asp		
180	185	

&lt;210&gt; 7088

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7088

Ile Met Ala Lys Glu Ser Met Lys Ala Arg Glu Ile Lys Arg Ala Lys		
1	5	10
Leu Val Ala Lys Tyr Ala Glu Lys Arg Ala Ala Leu Lys Gln Ile Val		
20	25	30
Arg Thr Gly Asp Pro Ala Glu Ala Phe Glu Ala Ala Gln Lys Leu Gln		
35	40	45

Glu Leu Pro Lys Asn Ser Asn Pro Ile Arg Met His Asn Arg Cys Lys  
 50 55 60  
 Leu Thr Gly Arg Pro Lys Gly Tyr Ile Arg Gln Phe Gly Val Ser Arg  
 65 70 75 80  
 Ile Gln Phe Arg Glu Met Ala Ser Asn Gly Leu Ile Pro Gly Val Lys  
 85 90 95  
 Lys Ala Ser Trp  
 100

&lt;210&gt; 7089

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7089

Tyr Met Ala Lys Gln Ser Ala Ile Glu Gln Asp Gly Val Ile Val Glu  
 1 5 10 15  
 Ala Leu Ser Asn Ala Met Phe Arg Val Glu Leu Glu Asn Gly His Glu  
 20 25 30  
 Ile Thr Ala His Ile Ser Gly Lys Met Arg Met His Tyr Ile Lys Ile  
 35 40 45  
 Leu Pro Gly Asp Lys Val Arg Val Glu Met Ser Pro Tyr Asp Leu Ser  
 50 55 60  
 Lys Gly Arg Ile Val Phe Arg Tyr Lys  
 65 70

&lt;210&gt; 7090

&lt;211&gt; 158

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7090

Leu Phe Val Glu Tyr Lys Thr Asn Tyr Asn Met Asn Leu Ser Asn Leu  
 1 5 10 15  
 Lys Pro Ala Glu Gly Ser Thr Lys Thr Arg Lys Arg Ile Gly Arg Gly  
 20 25 30  
 Pro Gly Ser Gly Leu Gly Gly Thr Ser Thr Arg Gly His Lys Gly Ala  
 35 40 45  
 Lys Ser Arg Ser Gly Tyr Ser Lys Lys Ile Gly Phe Glu Gly Gly Gln  
 50 55 60  
 Met Pro Leu Gln Arg Arg Val Pro Lys Phe Gly Phe Lys Asn Ile Asn  
 65 70 75 80  
 Arg Ile Glu Tyr Lys Ala Ile Asn Leu Glu Thr Ile Gln Lys Leu Ala  
 85 90 95  
 Glu Ala Lys Lys Leu Glu Lys Val Gly Val Asn Asp Phe Ile Glu Ala  
 100 105 110  
 Gly Phe Ile Ser Ser Ser Gln Leu Val Lys Val Leu Gly Asn Gly Thr  
 115 120 125  
 Leu Thr Ala Lys Leu Ser Val Glu Ala His Ala Phe Ser Lys Ser Ala  
 130 135 140  
 Val Ala Ala Ile Glu Ala Ala Gly Gly Asn Val Val Lys Leu  
 145 150 155

&lt;210&gt; 7091

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7091

Thr Val Gly Leu Asn Asn Leu Leu Tyr Leu Gln Ala Asp Met Ala Lys  
 1 5 10 15  
 Phe Ile Lys Ile Ile Leu Phe Met Leu Phe Ala Val Ala Leu His Ser  
 20 25 30  
 Val Ala Asn Asp Tyr Phe Ala Glu Lys Gln Ala Glu Gln Asp Ile Tyr  
 35 40 45  
 Met Ala Met Ser Thr Met Lys Gly Asp Thr His Glu Thr Val Ser Ser  
 50 55 60  
 Pro Gln Thr Pro Tyr Phe Pro Asp Ala Glu Leu Ala Gly Thr Gly Ile  
 65 70 75 80  
 Gln Thr His Gln Ile Ala Met Ser Arg Ile Gln Arg Ile Gln Ala Ala  
 85 90 95  
 Glu Ser Ile Phe Ser Leu Lys Ala Leu Ala Gln Arg Leu Ala Asp Arg  
 100 105 110  
 Asp Ala Val Leu Ser Gln His Trp Gly Lys Leu Tyr Glu Thr Thr Thr  
 115 120 125  
 Ser Tyr Trp Trp His Pro Val Ser Glu Tyr Tyr Val Phe Ala Leu Arg  
 130 135 140  
 Arg Ile Ile Val  
 145

&lt;210&gt; 7092

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7092

Ile Cys Ile Ile Met Thr Thr Lys Ile Glu Arg Arg Ile Lys Ile Lys  
 1 5 10 15  
 Tyr Arg Val Arg Asn Lys Val Ser Gly Thr Ala Ala Arg Pro Arg Met  
 20 25 30  
 Ser Val Phe Arg Ser Asn Lys Gln Ile Tyr Val Gln Ile Ile Asp Asp  
 35 40 45  
 Leu Ser Gly Lys Thr Leu Ala Ala Ser Ser Leu Gly Met Thr Glu  
 50 55 60  
 Lys Leu Pro Lys Lys Glu Val Ala Ala Lys Val Gly Glu Ile Ile Ala  
 65 70 75 80  
 Lys Lys Ala Gln Glu Ala Gly Ile Thr Thr Val Val Phe Asp Arg Asn  
 85 90 95  
 Gly Tyr Leu Tyr His Gly Arg Val Lys Glu Val Ala Asp Ala Ala Arg  
 100 105 110  
 Asn Gly Gly Leu Lys Phe  
 115

&lt;210&gt; 7093

&lt;211&gt; 127

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7093

Tyr Met Ala Ile Arg Ile Val Gly Val Asp Leu Pro Gln Asn Lys Arg  
 1 5 10 15  
 Gly Glu Ile Ala Leu Thr Tyr Val Tyr Gly Ile Gly Arg Ser Ser Ser  
 20 25 30  
 Ala Lys Ile Leu Asp Lys Ala Gly Val Asp Lys Asp Leu Lys Val Lys  
 35 40 45  
 Asp Trp Thr Asp Asp Gln Ala Ala Lys Ile Arg Glu Ile Ile Gly Ala  
 50 55 60  
 Glu Tyr Lys Val Glu Gly Asp Leu Arg Ser Glu Val Gln Leu Asn Ile

65	70	75	80
Lys Arg Leu Met Asp Ile Gly Cys Tyr Arg Gly Val Arg His Arg Ile			
85		90	95
Gly Leu Pro Val Arg Gly Gln Ser Thr Lys Asn Asn Ala Arg Thr Arg			
100		105	110
Lys Gly Arg Lys Lys Thr Val Ala Asn Lys Lys Lys Ala Thr Lys			
115		120	125

&lt;210&gt; 7094

&lt;211&gt; 176

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7094

Ile Leu Ile Ile Met Ala Gly Val Asn Asn Arg Val Lys Ile Thr Asn			
1	5	10	15
Asp Ile Glu Leu Lys Asp Arg Leu Val Ala Ile Asn Arg Val Thr Lys			
20	25	30	
Val Thr Lys Gly Gly Arg Thr Phe Ser Phe Ser Ala Ile Val Val Val			
35	40	45	
Gly Asn Glu Glu Gly Ile Ile Gly Trp Gly Leu Gly Lys Ala Gly Glu			
50	55	60	
Val Thr Ala Ala Ile Ala Lys Gly Val Glu Ser Ala Lys Lys Asn Leu			
65	70	75	80
Thr Arg Val Pro Val Leu Lys Gly Thr Val Pro His Glu Gln Ser Ala			
85	90	95	
Lys Phe Gly Gly Ala Glu Val Phe Ile Lys Pro Ala Ser His Gly Thr			
100	105	110	
Gly Val Val Ala Gly Gly Ala Met Arg Ala Val Leu Glu Ser Val Gly			
115	120	125	
Val Thr Asp Val Leu Ala Lys Ser Lys Gly Ser Ser Asn Pro His Asn			
130	135	140	
Leu Val Lys Ala Thr Ile Met Ala Leu Gly Glu Met Arg Asp Ala Arg			
145	150	155	160
Met Ile Ala Gln Asn Arg Gly Ile Ser Val Glu Lys Val Phe Arg Gly			
165	170	175	

&lt;210&gt; 7095

&lt;211&gt; 267

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7095

Val Glu Met Ile Phe Leu Lys Thr Glu Asp Glu Ile Glu Leu Leu Arg			
1	5	10	15
Gln Ser Asn Leu Leu Val Gly Arg Thr Leu Ala Glu Val Ala Lys Leu			
20	25	30	
Val Lys Pro Gly Val Thr Thr Lys Glu Leu Asp Lys Val Ala Glu Glu			
35	40	45	
Phe Ile Arg Asp His Gly Ala Val Pro Thr Phe Lys Gly Phe Pro Asn			
50	55	60	
Gln Tyr Gly Asp Pro Phe Pro Ala Ser Leu Cys Thr Ser Val Asn Glu			
65	70	75	80
Gln Val Val His Gly Ile Pro Gly Asp Ile Val Leu Lys Asp Gly Asp			
85	90	95	
Ile Val Ser Val Asp Cys Gly Thr Tyr Met Asn Gly Phe Cys Gly Asp			
100	105	110	
Ser Ala Tyr Thr Phe Cys Val Gly Glu Val Asp Glu Glu Val Arg Gln			
115	120	125	

Leu Leu Lys Val Thr Lys Glu Ala Leu Tyr Ile Gly Ile Gln Asn Ala  
 130 135 140  
 Val Gln Gly Lys Arg Ile Gly Asp Ile Gly Tyr Ala Ile Gln Gln Tyr  
 145 150 155 160  
 Cys Glu Ser His Ser Tyr Gly Val Val Arg Glu Phe Val Gly His Gly  
 165 170 175  
 Ile Gly Lys Asp Met His Glu Asp Pro Gln Val Pro Asn Tyr Gly Lys  
 180 185 190  
 Arg Gly Tyr Gly Thr Leu Leu Lys Lys Gly Leu Cys Ile Ala Ile Glu  
 195 200 205  
 Pro Met Ile Thr Gln Gly Asp Arg Gln Val Ile Met Glu Arg Asp Gly  
 210 215 220  
 Trp Thr Val Arg Thr Arg Asp Arg Lys Cys Ala Ala His Phe Glu His  
 225 230 235 240  
 Thr Ile Ala Val Gly Ala Gly Glu Ala Asp Ile Leu Ser Ser Phe Lys  
 245 250 255  
 Phe Ile Glu Glu Val Leu Gly Asp Lys Ala Ile  
 260 265

&lt;210&gt; 7096

&lt;211&gt; 215

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7096

Glu Phe Asn Leu Leu Val Leu Leu Phe Tyr Val Ala Val Pro Gly  
 1 5 10 15  
 Ser Tyr Arg Cys Gly Ser Ile Tyr Gln Leu Leu Phe Thr Asn Asn Leu  
 20 25 30  
 Asn Phe Asn Ile Met Thr Thr Gln Ala Ile Asp Ala Thr Ile Phe Ala  
 35 40 45  
 Ser Ser His Pro Asp Ile Ala Lys Arg Thr Ser Val Ser Gly Leu Ile  
 50 55 60  
 Phe Ser Cys Ile Met Leu Leu Ala Gly Val Ile Ala Phe Val Ser Thr  
 65 70 75 80  
 Phe Glu Met Lys Asp Arg Ser Ser Thr Ile Ser Met Gly Leu Met Val  
 85 90 95  
 Leu Gly Thr Ala Leu Phe Leu Ile Gly Val Phe Arg Leu Phe Trp Lys  
 100 105 110  
 Ser Lys Glu Ile Val Tyr Leu Pro Thr Gly Ser Val Ala Lys Glu Gln  
 115 120 125  
 Ser Ile Phe Phe Asp Leu Lys His Leu Asp Glu Leu Thr Asp Met Val  
 130 135 140  
 Lys Ser Gly Asp Phe Ser Met Gln Ser Thr Ala Lys Gly Gly Thr Ser  
 145 150 155 160  
 Gly Asn Leu Arg Leu Asp Val Met Leu Ser Glu Asp Arg Lys Phe Ala  
 165 170 175  
 Ala Val Gln Leu Phe Gln Phe Val Pro Tyr Thr Tyr Asn Pro Val Thr  
 180 185 190  
 Ser Val Arg Tyr Phe Thr Asn Gly Glu Ala Ala Ser Ile Ala Ala Phe  
 195 200 205  
 Leu Thr Lys Thr Lys Gly His  
 210 215

&lt;210&gt; 7097

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7097

Ile	Ile	Ile	Val	Asp	Met	Ala	Lys	Lys	Thr	Val	Ala	Ala	Lys	Lys	Arg
1				5					10						15
Asn	Val	Lys	Val	Asp	Ala	Asn	Gly	Gln	Leu	His	Val	His	Ser	Ser	Phe
					20				25						30
Asn	Asn	Ile	Ile	Val	Ser	Leu	Ala	Asn	Ser	Glu	Gly	Gln	Ile	Ile	Ser
					35				40						45
Trp	Ser	Ser	Ala	Gly	Lys	Met	Gly	Phe	Arg	Gly	Ser	Lys	Lys	Asn	Thr
					50			55							60
Pro	Tyr	Ala	Ala	Gln	Met	Ala	Ala	Gln	Asp	Cys	Ala	Lys	Ile	Ala	Phe
					65			70		75					80
Asp	Leu	Gly	Leu	Arg	Lys	Val	Lys	Ala	Tyr	Val	Lys	Gly	Pro	Gly	Asn
					85			90							95
Gly	Arg	Glu	Ser	Ala	Ile	Arg	Thr	Ile	His	Gly	Ala	Gly	Ile	Glu	Val
					100			105							110
Thr	Glu	Ile	Ile	Asp	Val	Thr	Pro	Leu	Pro	His	Asn	Gly	Cys	Arg	Pro
					115			120							125
Pro	Lys	Arg	Arg	Arg	Val										
					130										

&lt;210&gt; 7098

&lt;211&gt; 452

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (67)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7098

Asn	Ser	Asp	Ser	Met	Arg	Lys	Ala	Ile	Glu	Ser	Ser	Lys	Asn	Ile	Trp
1				5					10						15
Lys	Ile	Glu	Asp	Leu	Arg	Gln	Arg	Ile	Leu	Ile	Thr	Ile	Leu	Phe	Val
					20				25						30
Ala	Ile	Tyr	Arg	Phe	Gly	Ser	Tyr	Val	Val	Phe	Pro	Gly	Ile	Asn	Pro
					35			40							45
Gly	Met	Leu	Thr	Gln	Leu	His	Arg	Gln	Thr	Ser	Glu	Gly	Leu	Leu	Ala
					50			55							60
Leu	Leu	Xaa	Val	Phe	Ser	Gly	Ala	Ala	Phe	Ser	Asn	Ala	Ser	Ile	Phe
					65			70		75					80
Ala	Leu	Gly	Ile	Met	Pro	Tyr	Ile	Cys	Ala	Ser	Ile	Val	Ile	Gln	Leu
					85			90							95
Leu	Gly	Ile	Val	Val	Pro	Tyr	Phe	Gln	Ile	Leu	Gln	Arg	Glu	Gly	Glu
					100			105							110
Ser	Gly	Arg	Arg	Lys	Met	Asn	Gln	Tyr	Thr	Arg	Tyr	Leu	Thr	Ile	Ala
					115			120							125
Ile	Leu	Leu	Val	Gln	Ala	Pro	Ser	Tyr	Leu	Leu	Asn	Leu	Lys	Met	Gln
					130			135							140
Ala	Gly	Pro	Ser	Leu	Asn	Ala	Ser	Leu	Asp	Trp	Thr	Leu	Phe	Met	Val
					145			150			155				160
Thr	Ser	Thr	Ile	Ile	Leu	Ala	Ala	Gly	Ser	Met	Phe	Ile	Leu	Trp	Leu
					165			170							175
Gly	Glu	Arg	Ile	Thr	Asp	Lys	Gly	Ile	Gly	Asn	Gly	Ile	Ser	Phe	Ile
					180			185							190
Ile	Leu	Ile	Gly	Ile	Ile	Ala	Arg	Leu	Pro	Gln	Ser	Leu	Phe	Gln	Glu
					195			200							205
Leu	Ile	Ser	Arg	Met	Thr	Asp	Lys	Thr	Gly	Gly	Leu	Ile	Met	Phe	Leu
					210			215							220

Phe Glu Ile Val Phe Leu Leu Ile Val Ile Ala Gly Ala Ile Leu Leu  
 225 230 235 240  
 Val Gln Gly Thr Arg Lys Ile Pro Val Gln Tyr Ala Lys Arg Ile Val  
 245 250 255  
 Gly Asn Lys Gln Tyr Gly Gly Ala Arg Gln Tyr Ile Pro Leu Lys Val  
 260 265 270  
 Asn Ala Ala Gly Val Met Pro Ile Ile Phe Ala Gln Ala Ile Met Phe  
 275 280 285  
 Ile Pro Ile Thr Phe Ile Gly Phe Ser Asn Thr Asn Asn Val Ser Gly  
 290 295 300  
 Phe Val His Ala Phe Thr Asp His Thr Ser Phe Trp Tyr Asn Phe Val  
 305 310 315 320  
 Phe Ala Val Met Ile Ile Leu Phe Thr Tyr Phe Tyr Thr Ala Ile Thr  
 325 330 335  
 Ile Asn Pro Thr Gln Met Ala Glu Asp Met Lys Arg Asn Asn Gly Phe  
 340 345 350  
 Ile Pro Gly Ile Lys Pro Gly Lys Lys Thr Ala Glu Tyr Ile Asp Asp  
 355 360 365  
 Ile Met Ser Arg Ile Thr Leu Pro Gly Ser Phe Phe Leu Ala Phe Ile  
 370 375 380  
 Ala Ile Met Pro Ala Phe Ala Gly Ile Phe Gly Val Lys Ala Glu Phe  
 385 390 395 400  
 Ala Gln Phe Phe Gly Gly Thr Ser Leu Leu Ile Leu Val Gly Val Val  
 405 410 415  
 Leu Asp Thr Leu Gln Gln Val Glu Ser His Leu Leu Met Arg His Tyr  
 420 425 430  
 Asp Gly Leu Leu Lys Ser Gly Arg Ile Lys Gly Arg Thr Gly Ser Ser  
 435 440 445  
 Val Ala Ala Tyr  
 450

&lt;210&gt; 7099

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7099

Ile Gln Lys Ser His Pro Lys Asp Lys Asn Thr Ile Asn Ser Ala Asp  
 1 5 10 15  
 Thr Asp Ser Met Pro Arg Leu Pro Ile Tyr Lys Ala Arg Ser Met Val  
 20 25 30  
 Gly Asn Phe Ile Asp Met Ala Glu Lys Ile Thr Ile Ala Ile Ala Leu  
 35 40 45  
 Ile Pro Lys Gln Arg Leu Lys Asp Arg Gly Glu Ser Pro  
 50 55 60

&lt;210&gt; 7100

&lt;211&gt; 177

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7100

Ala Ser Ile Pro Pro Pro Ile Gly Ala Met Thr Val Ala Ile Pro Phe  
 1 5 10 15  
 Ile Pro Pro Ile Thr Ala Ser Met Pro Ala Ser Cys Cys Pro Glu Tyr  
 20 25 30  
 Ser Ser Val Ala Met Glu Arg Glu Ile Thr Thr Pro Pro Ala Pro Ala  
 35 40 45  
 Met Pro Cys Lys Asn Arg Asp Val Thr Asn Cys Glu Met Val Cys Glu

50	55	60													
Lys	Met	His	Pro	Thr	Val	Ala	Ser	Arg	Asn	Arg	Ile	Met	Ala	Arg	Ser
65					70				75					80	
Asn	Gly	Gly	Arg	Arg	Pro	Tyr	Leu	Ser	Leu	Lys	Gly	Pro	Lys	Ile	Asn
														95	
Cys	Pro	Ala	Ala	Lys	Pro	Ile	Met	Leu	Val	Val	Ser	Pro	Asn	Cys	Thr
														110	
Ile	Glu	Asp	Glu	Val	Trp	Lys	Lys	Ser	Ala	Ile	Ala	Gly	Lys	Val	Gly
														125	
Lys	Tyr	Met	Ser	Ile	Ile	Lys	Gly	Pro	Lys	Ala	Leu	Asn	Thr	Pro	Lys
														140	
Asn	Asn	Asn	Lys	Asn	Arg	Leu	Glu	Phe	Cys	Leu	Ser	Val	Ile	Ala	Ile
														160	
Leu	Phe	Asp	Gln	Tyr	Gly	Cys	Lys	Ile	Thr	Pro	Ser	Val	Arg	Asn	Arg
														175	
	Ile														

&lt;210&gt; 7101

&lt;211&gt; 759

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7101

Thr	Tyr	Ser	Thr	Met	Lys	Phe	Lys	Thr	Phe	Leu	Ala	Gly	Cys	Leu	Gly
1					5				10					15	
Gly	Leu	Leu	Ser	Leu	Asn	Ser	Cys	Thr	Asn	Ser	Pro	Asp	Met	Thr	Asp
														30	
Tyr	Val	Ala	Tyr	Val	Asn	Pro	Phe	Ile	Gly	Thr	Gly	Gly	His	Gly	His
														45	
Thr	Phe	Pro	Gly	Ala	Ile	Val	Pro	His	Gly	Met	Ile	Ser	Pro	Ser	Pro
														60	
Asp	Thr	Arg	Ile	Asp	Gly	Trp	Asp	Ala	Cys	Ser	Gly	Tyr	Tyr	Tyr	Ala
														80	
Asp	Phe	Thr	Ile	Asn	Gly	Phe	Ser	His	Thr	His	Leu	Ser	Gly	Thr	Gly
														95	
Cys	Cys	Asp	Tyr	Gly	Asp	Val	Leu	Leu	Met	Pro	Thr	Val	Gly	Glu	Gln
														110	
Lys	Tyr	Leu	Pro	Thr	Gly	Ser	Gln	Ser	Gln	Gln	Met	Ala	Tyr	Ala	Ser
														125	
Ala	Phe	Ser	His	Gln	Asn	Glu	Thr	Ala	Glu	Pro	Gly	Tyr	Tyr	Ser	Val
														140	
Phe	Leu	Asp	Thr	Tyr	Gln	Val	Lys	Ala	Glu	Leu	Thr	Ala	Ser	Lys	Arg
														160	
Ala	Ala	Ile	His	Arg	Tyr	Thr	Phe	Pro	Glu	Ser	Lys	Glu	Ala	Gly	Phe
														175	
Ile	Leu	Asp	Leu	Asp	Tyr	Ser	Leu	Gln	Arg	Gln	Thr	Asn	Lys	Glu	Met
														190	
Glu	Ile	Glu	Val	Ile	Ser	Pro	Thr	Glu	Ile	Cys	Gly	Arg	Lys	Lys	Thr
														205	
Met	Tyr	Trp	Ala	Phe	Asp	Gln	Tyr	Ile	Asn	Phe	Tyr	Ala	Lys	Phe	Ser
														220	
Lys	Pro	Phe	Thr	Tyr	Thr	Leu	Val	Thr	Asp	Ser	Met	Ala	Leu	Asp	Asp
														240	
Gly	Gly	Arg	Leu	Leu	Pro	Thr	Cys	Lys	Ala	Leu	Leu	His	Phe	Asp	Thr
														255	
Thr	Lys	Asp	Glu	Gln	Val	Phe	Val	Lys	Val	Gly	Ile	Ser	Ala	Val	Asp
														270	
Ile	Glu	Gly	Ala	Arg	Lys	Asn	Val	Glu	Thr	Glu	Ile	Pro	Asp	Trp	Asp

275	280	285
Phe Asp Gly Val Arg Lys Asp	Ala Arg Lys Ala Trp Asn Glu Thr Leu	
290	295	300
Ser Lys Ile Asp Ile Thr Thr Asn Asp Lys Asn Asp Lys Thr Ile Phe		
305	310	315
Tyr Thr Ala Leu Tyr His Thr Ala Ile Ser Pro Asn Leu Phe Thr Asp		
325	330	335
Val Asp Gly Arg Tyr Leu Gly Met Asp Leu Gln Val His Gln Gly Asp		
340	345	350
Thr Leu Asn Pro Met Tyr Thr Ile Phe Ser Leu Trp Asp Thr Phe Arg		
355	360	365
Ala Leu His Pro Leu Met Thr Ile Ile Asp Pro Asp Leu Asn Asn Ala		
370	375	380
Phe Ile Arg Ser Leu Ile Lys Lys His Gln Glu Gly Gly Ile Phe Pro		
385	390	395
Met Trp Asp Met Ala Ser Asn Tyr Thr Gly Thr Met Ile Gly Tyr His		
405	410	415
Ala Val Pro Val Ile Val Asp Ala Tyr Met Lys Gly Asp Arg Asn Phe		
420	425	430
Asp Ile Gln Glu Ala Tyr Arg Ala Cys Val Arg Ala Ala Glu Tyr Asp		
435	440	445
Thr Thr Gly Ile Lys Cys Pro Asp Leu Val Leu Pro His Leu Met Pro		
450	455	460
Lys Ala Lys Tyr Tyr Lys Asn Ser Ile Gly Tyr Val Pro Cys Asp Arg		
465	470	475
Glu Asn Glu Ser Val Ala Lys Ala Leu Glu Tyr Ala Tyr Asp Asp Trp		
485	490	495
Cys Ile Ser Val Phe Ala Asp Ala Leu Asn Asp Tyr Asp Thr Arg Asp		
500	505	510
Lys Tyr Ala Arg Phe Ala Lys Ala Tyr Glu Phe Tyr Phe Asp Pro Gly		
515	520	525
Thr Arg Phe Met Arg Gly Leu Asp Ser Lys Gly Glu Trp Arg Thr Pro		
530	535	540
Phe Asn Pro Arg Ser Ser Thr His Arg Asn Asp Asp Tyr Cys Glu Gly		
545	550	555
Thr Ala Trp Gln Trp Thr Trp Phe Val Pro His Asp Ile Glu Gly Leu		
565	570	575
Val Lys Leu Met Gly Gly Glu Asp Ala Phe Ile Gly Lys Leu Asp Ser		
580	585	590
Leu Phe Thr Ala Asp Ser Ser Leu Glu Gly Glu Thr Thr Ser Ser Asp		
595	600	605
Ile Ser Gly Leu Ile Gly Gln Tyr Ala His Gly Asn Glu Pro Ser His		
610	615	620
His Val Ile His Met Tyr Asn Tyr Val Asn Arg Pro Trp Arg Thr Gln		
625	630	635
Glu Leu Val Asp Ser Val Tyr Arg Ser Gln Tyr Ala Asp Ala Val Asp		
645	650	655
Gly Leu Ser Gly Asn Glu Asp Cys Gly Gln Met Ser Ala Trp Tyr Val		
660	665	670
Leu Asn Ser Met Gly Phe Tyr Gln Val Cys Pro Gly Lys Pro Val Tyr		
675	680	685
Ser Ile Gly Arg Thr Ala Phe Asp Lys Ala Val Val Asn Leu Pro Asp		
690	695	700
Gly Lys Lys Phe Thr Val Ile Val Lys Asn Asn Ser Lys Lys Asn Lys		
705	710	715
Tyr Ile Lys Ser Met Thr Leu Asn Gly Lys Pro Leu Asp Lys Pro Phe		
725	730	735
Phe Thr His Asp Asp Ile Ile Ala Gly Ser Thr Leu Glu Ile Glu Met		
740	745	750

Thr Asp Arg Arg Pro Gln Pro  
755

<210> 7102

<211> 802

<212> PRT

<213> B.fragilis

<400> 7102

Glu	Gly	Ile	Thr	Glu	Thr	Glu	Ser	Ile	Leu	Ser	Pro	Pro	Ala	Val	Tyr
1		5				10							15		
Asn	Ala	Pro	Ser	Ala	Leu	Met	Ile	Thr	Ser	Arg	Asn	Thr	Lys	Arg	Arg
						20		25					30		
Ile	Asn	Gln	His	Thr	Ser	Ser	Phe	Val	Leu	His	Leu	Tyr	Ser	Leu	Pro
						35		40				45			
Leu	His	Thr	Lys	Ser	Ile	Asn	Tyr	Leu	Lys	Asn	Ser	Asn	Pro	Ser	Arg
						50		55				60			
Met	Lys	Val	Leu	Phe	His	Ser	Leu	Phe	Ile	Leu	Leu	Phe	Val	Phe	Thr
						65		70		75			80		
Ala	Cys	Thr	Ser	Thr	Pro	Lys	Gln	Ala	Thr	Ile	Asp	Tyr	Thr	Gln	Tyr
						85			90				95		
Val	Asn	Pro	Phe	Ile	Gly	Thr	Asp	Phe	Thr	Gly	Asn	Thr	Tyr	Pro	Gly
						100		105					110		
Ala	Gln	Val	Pro	Phe	Gly	Met	Val	Gln	Leu	Ser	Pro	Asp	Asn	Gly	Leu
						115		120				125			
Pro	Gly	Trp	Asp	Arg	Ile	Ser	Gly	Tyr	Phe	Tyr	Pro	Asp	Ser	Thr	Ile
						130		135				140			
Ala	Gly	Phe	Ser	His	Thr	His	Leu	Ser	Gly	Thr	Gly	Ala	Gly	Asp	Leu
						145		150		155			160		
Tyr	Asp	Ile	Ser	Phe	Met	Pro	Val	Thr	Leu	Pro	Tyr	Lys	Glu	Ala	Glu
						165			170			175			
Thr	Pro	Leu	Gly	Ile	Tyr	Ser	Lys	Phe	Ser	His	Gln	Asp	Glu	Ser	Ala
						180			185			190			
Thr	Ala	Gly	Tyr	Tyr	Gln	Val	Leu	Leu	Lys	Asp	Tyr	Gly	Ile	Asn	Val
						195		200				205			
Glu	Leu	Thr	Ala	Thr	Glu	Arg	Cys	Gly	Ile	Gln	Arg	Tyr	Thr	Phe	Pro
						210		215				220			
Glu	Ala	Lys	Ala	Ala	Ile	Phe	Leu	Asn	Leu	Lys	Lys	Ala	Met	Asn	Trp
						225		230		235			240		
Asp	Phe	Thr	Asn	Asp	Ser	His	Ile	Glu	Val	Ile	Asp	Ser	Val	Thr	Ile
						245			250			255			
Gln	Gly	Tyr	Arg	Phe	Ser	Asp	Gly	Trp	Ala	Arg	Asp	Gln	His	Val	Tyr
						260		265				270			
Phe	Arg	Thr	Arg	Phe	Ser	Lys	Pro	Phe	Thr	Ala	Val	Gln	Met	Asp	Thr
						275		280				285			
Thr	Ala	Ile	Leu	Lys	Asp	Gly	Lys	Arg	Met	Gly	Thr	Ala	Thr	Ile	Ala
						290		295				300			
Arg	Phe	Asp	Phe	Asp	Thr	Gln	Lys	Gly	Glu	Gln	Ile	Leu	Val	Asn	Thr
						305		310		315			320		
Ala	Leu	Ser	Gly	Val	Ser	Met	Glu	Gly	Ala	Ala	Gln	Asn	Leu	Ala	Ala
						325			330			335			
Glu	Val	Pro	Glu	Asp	Asn	Phe	Asp	Lys	Tyr	Arg	Glu	Ala	Ala	Arg	Asp
						340		345				350			
Asn	Trp	Asn	Arg	Gln	Leu	Ser	Lys	Ile	Ala	Val	Lys	Gly	Asp	His	Lys
						355		360				365			
Asp	Asp	Trp	Val	Asn	Phe	Tyr	Thr	Ala	Leu	Tyr	His	Thr	Met	Leu	Ala
						370		375				380			
Pro	Thr	Ile	Tyr	Ser	Asp	Val	Asp	Gly	Ser	Tyr	Tyr	Gly	Pro	Asp	Lys
						385		390		395			400		

Lys Ile His His Thr Asp Gly Trp Val Asn Tyr Ser Thr Phe Ser Leu  
           405                        410                        415  
 Trp Asp Thr Tyr Arg Ala Ala His Pro Leu Phe Thr Tyr Thr Glu Pro  
           420                        425                        430  
 Glu Arg Thr Asn Asp Met Val Gln Ser Phe Leu Ala Phe Tyr Glu Gln  
           435                        440                        445  
 Asn Gly Arg Leu Pro Val Trp Asn Phe Tyr Gly Ser Glu Thr Asp Met  
           450                        455                        460  
 Met Ile Gly Tyr His Ala Val Pro Val Ile Val Asp Ala Tyr Leu Lys  
           465                        470                        475                        480  
 Gly Ile Gly Asn Phe Asp Pro Lys Lys Ala Leu Glu Ala Cys Val Ala  
           485                        490                        495  
 Thr Ala Asn Leu Asp Asn Tyr Arg Gly Ile Gly Ala Tyr Lys Glu Leu  
           500                        505                        510  
 Gly Tyr Val Pro Phe Asn Glu Lys Asp Ser Tyr Asn Ala Glu Asn Trp  
           515                        520                        525  
 Ser Leu Ser Lys Thr Leu Glu Tyr Ala Tyr Asp Asp Tyr Cys Ile Ala  
           530                        535                        540  
 Arg Met Ala Glu Lys Leu Gly Lys Lys Glu Ile Ala Asp Glu Phe Tyr  
           545                        550                        555                        560  
 Lys Arg Ser Gln Asn Tyr Arg Asn Val Tyr Asn Pro Ala Thr Ser Phe  
           565                        570                        575  
 Met Gln Pro Arg Asp Asp Lys Gly Glu Phe Gln Lys Asp Phe Lys Ala  
           580                        585                        590  
 Asp Ala Tyr Thr Pro His Ile Cys Glu Ser Asn Gly Trp Gln Tyr Phe  
           595                        600                        605  
 Trp Ser Val Gln His Asp Ile Asp Gly Leu Ile Gly Leu Thr Gly Gly  
           610                        615                        620  
 Lys Glu Arg Phe Ala Gln Lys Leu Asp Ser Met Phe Thr Phe His Pro  
           625                        630                        635                        640  
 Ser Ala Asp Asp Glu Leu Pro Leu Phe Ser Thr Gly Met Ile Gly Gln  
           645                        650                        655  
 Tyr Ala His Gly Asn Glu Pro Ser His His Val Ile Tyr Leu Tyr Asn  
           660                        665                        670  
 Ala Val Asp Gln Pro Trp Lys Thr Gln Glu Tyr Val Ala Lys Val Met  
           675                        680                        685  
 Asn Glu Leu Tyr Leu Asn Ser Pro Ala Gly Leu Cys Gly Asn Glu Asp  
           690                        695                        700  
 Cys Gly Gln Met Ser Ala Trp Tyr Val Phe Ser Ala Met Gly Phe Tyr  
           705                        710                        715                        720  
 Pro Val Asn Pro Ile Ser Gly Gln Tyr Glu Ile Gly Thr Pro Leu Phe  
           725                        730                        735  
 Pro Glu Val Gln Leu His Leu Asp Asn Gly Lys Thr Phe Thr Val Lys  
           740                        745                        750  
 Ala Pro Thr Val Ser Lys Glu Asn Ile Tyr Ile Arg Ser Thr Lys Leu  
           755                        760                        765  
 Asn Gly Lys Pro Tyr Asp Lys Ser Tyr Ile Thr His Glu Gln Ile Met  
           770                        775                        780  
 Ser Gly Ala Thr Leu Glu Phe Glu Met Gly Lys Glu Lys Val Thr Ser  
           785                        790                        795                        800  
 Asp Gln

<210> 7103  
 <211> 1220  
 <212> PRT  
 <213> B.fragilis

<400> 7103

Val Val Gly Leu Asn Ile Gly Leu Gly Cys Ile Thr Gln Ala Asp Ile  
 1 5 10 15  
 Arg Phe Val Gly Gly Tyr Ser Pro Trp Phe Ser Ser Leu Pro Phe Leu  
 20 25 30  
 Asn Ile Asn Ser Met Leu Asn Phe Lys His Leu Phe Leu Val Ser Val  
 35 40 45  
 Ala Leu Trp Ser Ala Val Gly Met Val Arg Ala Gln Glu Phe Asp Pro  
 50 55 60  
 Lys Gln Ser Tyr Glu Ile His Thr Gln Asn Gly Leu Val Leu Asp Asn  
 65 70 75 80  
 Gln Glu Ser Leu Asp Leu Gly Ser Lys Ile Phe Ile Ser Lys Lys Glu  
 85 90 95  
 Pro His Lys Glu Ser Gln Val Trp Asn Leu Ile Pro Cys Gly Asp Gly  
 100 105 110  
 Cys Tyr Ser Ile Val Ser Pro Leu Thr Glu Leu Gly Ile Asp Asn Ser  
 115 120 125  
 Gly Asn Gly Ser Lys Glu Cys Pro Val Ile Gln Trp Asp Pro Asn Lys  
 130 135 140  
 Glu Asn Pro Asn Gln Gln Trp Arg Ile Thr Ala Leu Pro Asn Gly Asn  
 145 150 155 160  
 Tyr Leu Phe Thr Ser Val Ala Ser Gly Tyr Asn Leu Gly Phe Pro Asp  
 165 170 175  
 Ala Gly Leu Val Ala Glu Pro Val Tyr Gln Leu Lys Pro Asp Ala Gln  
 180 185 190  
 Lys Ile Ser Gln Gln Trp Lys Ile Val Lys Ser Asn Leu Lys Val Val  
 195 200 205  
 Ala Glu Ala Phe Lys Thr Arg Ser Asp Asn Asp Trp Glu Asn Glu Arg  
 210 215 220  
 Ile Phe Ala Val Asn Lys Glu Glu Gly Arg Ser Thr Phe Val Pro Phe  
 225 230 235 240  
 Ala Asp Thr Glu Glu Met Lys Gly Asp Pro Ser Tyr Thr Arg Pro Trp  
 245 250 255  
 Ile Arg Asn Gln Ser Ser Arg Tyr Leu Leu Asn Gly Asp Trp Lys  
 260 265 270  
 Phe His Trp Val Lys Gln Pro Ser Glu Arg Pro Val Asp Phe Tyr Lys  
 275 280 285  
 Pro Gly Tyr Asp Val Ser Ala Trp Lys Glu Ile Pro Val Pro Ser Asn  
 290 295 300  
 Trp Glu Met Leu Gly Tyr Gly Thr Pro Ile Tyr Thr Asn Ile Thr Tyr  
 305 310 315 320  
 Pro Ile Arg Asn Asn Pro Pro Phe Ile Gln Gly Gln Arg Gly Tyr Thr  
 325 330 . 335  
 Val Glu Lys Glu Pro Asn Ala Val Gly Ser Tyr Arg Arg Glu Phe Ser  
 340 345 350  
 Leu Pro Ala Asp Trp Lys Asn Lys Glu Val Phe Ile His Phe Asp Gly  
 355 360 365  
 Val Tyr Ser Ala Met Tyr Leu Trp Ile Asn Gly Lys Lys Val Gly Tyr  
 370 375 380  
 Ser Gln Gly Ala Asn Asn Asp Ala Glu Phe Asn Ile Thr Gln Tyr Val  
 385 390 395 400  
 Lys Pro Gly Lys Asn Ile Leu Ala Val Glu Val Tyr Arg Trp Ser Asp  
 405 410 415  
 Gly Ser Tyr Leu Glu Asp Gln Asp Met Phe Arg Leu Ser Gly Ile His  
 420 425 430  
 Arg Asp Val Tyr Leu Val Ala Thr Pro Lys Leu Arg Leu Arg Asp Val  
 435 440 445  
 His Leu Thr Ser Val Ile Ser Asp Arg Phe Asp Lys Ala Asp Leu Cys  
 450 455 460  
 Val Lys Ala Asp Val Lys Asn Tyr Gly Lys Ser Ala Val Asn Ala Ser

465	470	475	480
Val Arg Ile Ala Leu Leu Asp Ala Gly	Gly Arg Thr Leu Arg Thr Phe		
485	490	495	
Thr Thr Ala Ala Gly Asn Leu Ala Ala	Gly Lys Glu Ile Cys Leu Pro		
500	505	510	
Ala Lys Ala Ser Ile Arg Asp Pro Gln	Leu Trp Ser Ala Glu Thr Pro		
515	520	525	
Tyr Leu Tyr Thr Val Asn Leu Glu	Leu Leu Asp Ala Ser Gly Lys Val		
530	535	540	
Leu Glu Ala Thr Thr Gln Gln	Tyr Gly Phe Arg Lys Ile Glu Ile Arg		
545	550	555	560
Asp Asn Lys Val Tyr Ile Asn Asp Ala	Leu Val Leu Phe Lys Gly Ala		
565	570	575	
Asn Arg His Asp Ile His Pro Arg Phe	Gly Lys Ala Val Pro Val Glu		
580	585	590	
Ser Met Ile Glu Asp Ile Leu Leu	Phe Lys Arg Phe Asn Leu Asn Thr		
595	600	605	
Ile Arg Thr Ser His Tyr Pro Asn Asp	Pro Lys Met Tyr Ala Leu Phe		
610	615	620	
Asp Tyr Tyr Gly Leu Tyr Val Met Asp	Glu Ala Asp Leu Glu Cys His		
625	630	635	640
Gly Asn Met Met Leu Thr Lys Arg	Glu Ser Trp Lys Glu Ala Phe Val		
645	650	655	
Asp Arg Val Val Arg Met Val Lys	Arg Asp Lys Asn His Pro Ser Val		
660	665	670	
Ile Phe Trp Ser Met Gly Asn Glu	Ser Gly Gly Pro Asn Phe Glu		
675	680	685	
Ala Ala Tyr Gln Ala Ala Arg Glu	Ile Asp Ala Arg Phe Ile His Tyr		
690	695	700	
Glu Gly Met Asn Asp Val Ala Asp	Met Asp Ser Arg Met Tyr Pro Ser		
705	710	715	720
Ile Glu Ser Met Ile Ala Gln Asp	Asn Glu Pro Arg Asn Lys Pro Phe		
725	730	735	
Phe Leu Cys Glu Tyr Ala His Ala	Met Gly Asn Ala Val Gly Asn Leu		
740	745	750	
Glu Glu Tyr Trp Asp Tyr Ile Ala	Asn Gln Ser Lys Arg Met Ile Gly		
755	760	765	
Gly Cys Ile Trp Asp Trp Val Asp	Gln Gly Ile Asn Lys Pro Gly Glu		
770	775	780	
Ala Pro Asp Arg Tyr Tyr Phe	Gly Ser Phe Gly Asp Arg Pro Asn		
785	790	795	800
Asp Asn Asp Phe Cys Cys Asn	Gly Leu Val Thr Pro Asp Arg Arg Val		
805	810	815	
Thr Pro Lys Leu Trp Glu Val Lys	Lys Val Tyr Gln Tyr Met Thr Phe		
820	825	830	
Glu Glu Val Gly Glu Asn Asn Val	Gly Leu Arg Asn His Tyr Ser Phe		
835	840	845	
Leu Asn Met Arg His Phe Asn Leu	Arg Tyr Val Ile Leu Lys Asp Gly		
850	855	860	
Val Pro Val Ala Glu Glu	Glu Phe Gly Leu Pro Asp Gly Lys Pro Gly		
865	870	875	880
Glu His Arg Thr Ile His Ile	Pro Tyr Leu Arg His Leu Thr Glu Asp		
885	890	895	
Ala Asp Tyr His Ile Asn Leu Glu	Val Lys Leu Lys His Asp Cys Val		
900	905	910	
Trp Ala Lys Ala Gly His Val Val	Ala Thr Glu Gln Phe Leu Leu Arg		
915	920	925	
Glu Arg Lys Gln Lys Thr Glu Val	Pro Glu Leu Ser Ala Ser Leu Gln		
930	935	940	

Val Val Glu Glu Arg Gln Tyr Ile Arg Phe Arg Ala Pro Gly Thr Glu  
 945 950 955 960  
 Ile Ser Phe Asp Ser Lys Thr Gly Met Met Ile Gly Leu Arg Tyr Asp  
 965 970 975  
 Gly Gln Asn Met Ile His Gln Gln Gly Pro Ala Leu Asn Trp Tyr  
 980 985 990  
 Arg Ser Ile Ser Asn Asp Pro Arg Glu Trp Ile Gln Pro Val Val Val  
 995 1000 1005  
 Leu Arg Gly Phe Asp Trp Lys Leu Ala Glu Asp Gly Lys Ser Ala Ser  
 1010 1015 1020  
 Val Gln Ser Gln Ile Glu Val Lys Val Gly Gln Val Asn Ile Pro Tyr  
 1025 1030 1035 1040  
 Thr Val Arg Tyr Arg Val Tyr Ser Asn Gly Arg Val Asp Val Ala Ala  
 1045 1050 1055  
 Asp Phe Thr Thr Glu Ser Asn Phe Asp Leu Pro Arg Leu Gly Leu Gln  
 1060 1065 1070  
 Met Phe Leu Asn Pro Ser Leu Glu Gln Val Glu Trp Tyr Gly Arg Gly  
 1075 1080 1085  
 Pro Met Glu Asn Tyr Arg Asp Arg Lys Asn Ala Ala Tyr Met Gly Arg  
 1090 1095 1100  
 Tyr Lys Thr Thr Val Thr Asp Met Ala Glu His Tyr Ala Arg Ala Gln  
 1105 1110 1115 1120  
 Thr Met Gly Glu Arg Thr Asp Thr His Trp Leu Ala Leu Thr Asp Gly  
 1125 1130 1135  
 Gln Gly Lys Gly Leu Arg Ile Thr Ala Thr Asp Thr Leu Asp Phe Ser  
 1140 1145 1150  
 Ala Gln His Tyr Thr Asp Lys Asp Leu Trp Gln Val Lys Tyr Gly His  
 1155 1160 1165  
 Asp Leu Ser Asp Ile Arg Arg Ala Glu Val Val Leu Asn Leu Asp Cys  
 1170 1175 1180  
 Ile Gln Arg Gly Leu Gly Asn Ala Ser Cys Gly Pro Gly Pro Arg Pro  
 1185 1190 1195 1200  
 His Tyr Glu Ile Arg Lys Asp Thr Val Tyr Ser Tyr Ser Phe Arg Met  
 1205 1210 1215  
 Glu Pro Leu Arg  
 1220

&lt;210&gt; 7104

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7104

Lys Arg Gln His Lys Glu His Leu Ile Asn Lys Lys Leu Lys Gln Lys  
 1 5 10 15  
 Met Lys Arg Ile Val Phe Leu Asp Tyr Val Arg Val Phe Ala Cys Phe  
 20 25 30  
 Leu Val Met Ile Val His Ser Ser Glu Asn Phe Tyr Gly Ala Ala Gly  
 35 40 45  
 Ser Thr Asp Met Ala Gly Pro Gln Ser Tyr Leu Ala Ser Glu Ala Asp  
 50 55 60  
 Arg Leu Trp Val Ala Val Tyr Asp Gly Phe Ser Arg Met Ala Val Pro  
 65 70 75 80  
 Leu Phe Met Ile Val Ser Ala Phe Leu Leu Ala Pro Met Lys Glu Glu  
 85 90 95  
 Gln Thr Thr Trp Gln Phe Tyr Arg Gln Arg Phe Leu Arg Ile Ile Pro  
 100 105 110  
 Pro Phe Phe Ile Phe Met Ile Leu Tyr Ser Thr Leu Pro Met Leu Trp  
 115 120 125

Gly Gln Ile Asn Gly Glu Thr Ser Leu Thr Asp Leu Ser Arg Ile Phe  
 130 135 140  
 Leu Asn Phe Pro Thr Leu Ala Gly His Leu Trp Phe Met Tyr Pro Leu  
 145 150 155 160  
 Ile Ser Leu Tyr Leu Phe Ile Pro Ile Ile Ser Pro Trp Leu Arg Lys  
 165 170 175  
 Ala Ser Ala Lys Glu Glu Arg Phe Phe Ile Gly Leu Phe Leu Leu Ser  
 180 185 190  
 Thr Cys Ile Pro Tyr Leu Asn Arg Trp Cys Gly Glu Val Trp Gly Gln  
 195 200 205  
 Cys Phe Trp Asn Glu Tyr His Met Leu Trp Tyr Phe Ser Gly Tyr Leu  
 210 215 220  
 Gly Tyr Leu Val Leu Ala His Tyr Ile His Thr His Leu Thr Trp Ser  
 225 230 235 240  
 Arg Ser Lys Arg Phe Ile Ile Gly Thr Ile Leu Met Val Ile Gly Ala  
 245 250 255  
 Val Leu Thr Ile Tyr Ser Phe Tyr Ser Gln Ala Ile Pro Gly Glu Thr  
 260 265 270  
 Leu Ser Thr Pro Val Ile Glu Ile Gly Trp Ala Phe Cys Thr Ile Asn  
 275 280 285  
 Cys Val Leu Leu Thr Ala Gly Thr Phe Leu Met Phe Thr Cys Ile Asn  
 290 295 300  
 Ser Ser Lys Ala Pro Arg Ile Ile Thr Glu Met Ser Lys Leu Ser Tyr  
 305 310 315 320  
 Gly Met Tyr Leu Met His Ile Phe Trp Leu Gly Leu Trp Ala Thr Val  
 325 330 335  
 Phe Lys Tyr Thr Leu Ala Leu Pro Thr Val Ala Ala Ile Pro Cys Ile  
 340 345 350  
 Ala Val Ser Thr Phe Ile Cys Cys Phe Ile Thr Ser Lys Leu Ile Ser  
 355 360 365  
 Phe Ile Pro Gly Ser Lys Trp Ile Ile Gly  
 370 375

&lt;210&gt; 7105

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7105

Pro Tyr Ser Asn Val His Pro Met Ile His Leu Leu Pro Gly Met Asn  
 1 5 10 15  
 Glu Met Ser Phe Glu Val Met Lys Gln Gln Ile Asn Val Leu Thr Ala  
 20 25 30  
 Met His Gly Ile Ala Ala Thr Val Gly Ser Ala Arg Val Tyr Leu Asn  
 35 40 45  
 Thr Val Ala His Asn Pro Asn Gln Lys Ile Cys Ile Arg Tyr Ile Pro  
 50 55 60

&lt;210&gt; 7106

&lt;211&gt; 234

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7106

Thr Lys Lys Asn Ile Phe Ile Met Lys Thr Val Phe Asn Ile Val Leu  
 1 5 10 15  
 Gly Val Cys Ala Ile Ala Leu Val Tyr Ile Cys Tyr Ala Ser Ile Met  
 20 25 30  
 Gly Pro Ile Asn Phe Glu Lys Ala Lys Lys His Arg Asp Lys Ala Val

35	40	45
Val Ala Arg Leu Ile Asp Ile Arg Lys Ala Gln Ala Glu Tyr Arg Asn		
50	55	60
Ile Tyr Lys Gln Tyr Thr Ala Ser Phe Asp Thr Leu Ile Asp Phe Val		
65	70	75
Lys Thr Gln Lys Ile Pro Phe Val Ser Lys Glu Gly Val Leu Ser Asp		
85	90	95
Lys Gln Leu Glu Asp Gly Met Thr Glu Lys Lys Ala Met Ala Leu Ile		
100	105	110
Asn Lys Ala Lys Lys Thr Asn Asn Trp Lys Glu Val Glu Ala Ala Gly		
115	120	125
Leu Met Gly Phe Lys Arg Asp Thr Ile Trp Val Ala Val Thr Asp Thr		
130	135	140
Ile Tyr Asp Lys Ser Phe Asn Ala Asp Ser Leu Arg Tyr Val Pro Phe		
145	150	155
Gly Asn Gly Ala Gln Phe Glu Met Tyr Thr Lys Asn Asp Thr Thr Lys		
165	170	175
Ser Gly Ala Pro Ile Phe Leu Phe Gln Ala Asn Thr Pro Tyr Asp Val		
180	185	190
Tyr Leu Asn Gly Leu Asp Lys Gln Glu Ile Ala Asn Leu Lys Asp Leu		
195	200	205
Gln Val Lys Leu Gly Lys Tyr Ala Gly Leu Met Val Gly Ser Ile Asp		
210	215	220
Thr Pro Asn Asn Gly Ala Gly Asn Trp Glu		
225	230	

&lt;210&gt; 7107

&lt;211&gt; 736

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7107

1	5	10	15
Ser Met Lys Asn Lys Ile Leu Phe Gln Arg Pro Arg Leu Leu Lys Ala			
20	25	30	
Gln Phe Thr Phe Ser Thr Ser Arg Thr Thr Leu Gly Gln Val Ile Lys			
35	40	45	
Thr Val Gln Ser Gln Ser Lys Tyr Gln Phe Phe Tyr Asp Asp Gln Ser			
50	55	60	
Ser Asn Met Pro Ile Glu Asn Leu Asn Val Lys Asn Val Ser Leu Glu			
65	70	75	80
Gln Leu Leu Asn Thr Ala Leu Lys Gly Lys Asn Leu Thr Tyr Lys Ile			
85	90	95	
Glu Asp Asn Ile Val Tyr Leu Ser Gln Ala Ser Lys Gln Gln Asp Pro			
100	105	110	
Val Gln Ala Ser Ala Lys Arg Gln Ile Ser Gly Thr Val Val Asp Ala			
115	120	125	
Asn Gly Glu Ala Leu Ile Gly Val Asn Val Ser Val Lys Gly Thr Ser			
130	135	140	
Thr Gly Ala Ile Thr Asp Leu Glu Gly Lys Tyr Thr Leu Thr Val Asn			
145	150	155	160
Asp Pro Lys Ala Glu Ile Val Phe Ser Tyr Ile Gly Tyr Lys Gln Gln			
165	170	175	
Val Leu Pro Ala Lys Glu Ser Ile Leu Asn Val Thr Met Ser Glu Asp			
180	185	190	
Thr Gln Met Ile Ser Glu Val Val Val Thr Ala Leu Gly Ile Lys Arg			
195	200	205	
Glu Lys Lys Met Leu Gly Tyr Ala Val Gln Glu Ile Lys Gly Asp Gln			

210	215	220
Leu Asn Gln Thr Gly Asp Pro Ser Val Thr Ser Ala Leu Gln Gly Lys		
225	230	235
Val Ala Gly Leu Gln Met Asn Thr Ala Gly Thr Gly Leu Gly Gly Ser		240
245	250	255
Thr Lys Ile Thr Ile Arg Gly Asn Ser Ser Leu Ala Asp Asn Asn Gln		
260	265	270
Pro Leu Trp Ile Val Asp Gly Val Pro Phe Ser Asp Asn Asn Asn Ser		
275	280	285
Asp Ala Thr Tyr Tyr Gly Gly Val Asp Arg Gly Gly Ser Ser Val Asp		
290	295	300
Ile Asn Pro Glu Asp Ile Glu Ser Ile Ser Val Leu Lys Gly Pro Asn		
305	310	315
Ala Ala Ala Leu Tyr Gly Ser Arg Ala Gly Asn Gly Val Ile Leu Val		320
325	330	335
Thr Thr Lys Lys Gly Ser Lys Lys Asp Gly Phe Gly Val Arg Tyr Ser		
340	345	350
Gly Asn Phe Thr Trp Ser Gln Val Ala Glu Thr Leu Glu Met Gln Asp		
355	360	365
Arg Tyr Gly Gln Gly His Ile Val Thr Gln Asp Glu Asn Lys Asn Pro		
370	375	380
Leu Ser Gln Tyr Tyr Ala Lys Tyr Asp Pro Thr Asp Ser Ser Ser Trp		
385	390	395
Gly Pro Val Leu Asp Gly Ser Met Gln Lys Ala Trp Asn Gly Asp Thr		400
405	410	415
Tyr Ala Phe Ser Lys Tyr Gly Asn Lys Leu Lys Asp Tyr Phe Asp Thr		
420	425	430
Gly Phe Ala Gln Asn His Asn Val Ser Val Ser Asn Val Thr Asp Lys		
435	440	445
Ser His Phe Arg Ala Ser Phe Gly Ser Ser Asn Asn Lys Gly Val Phe		
450	455	460
Pro Asn Glu Lys Leu Asn Arg Ile Asn Leu Asp Leu Asn Ala Gly Met		
465	470	475
Glu Met Asn Lys Tyr Leu Ser Met Asp Gly Lys Ile Ser Leu Ser Arg		480
485	490	495
Thr Lys Ala Glu Asp Arg Pro Tyr Phe Gly Thr Tyr Gly Ala Ile Ala		
500	505	510
Gln Leu Met Gly Ile Pro Asn Asn Ile Arg Leu Asp Asp Leu Lys Gln		
515	520	525
Tyr Ser Thr Asp Gly Asn Ala His Val Asn Trp Thr Gly Pro Thr Ala		
530	535	540
Gly Ile Arg Asn Pro Tyr Tyr Val Leu Asn Gln Arg His Asn Ser Asp		
545	550	555
Glu Arg Trp Arg Ala Phe Gly Tyr Tyr Gly Met Lys Ile Asn Phe Thr		560
565	570	575
Asp Trp Leu His Leu Ser Ala Lys Tyr Ala Phe Asp Tyr Tyr Arg Thr		
580	585	590
Arg Ile Glu Glu Thr Asn Ala Gly Asp Gly Ile Asn Gly Glu Ser Ser		
595	600	605
Ile Lys Asp Ile Thr Asp Asp Glu Met Asn Arg Glu Glu Gln Asn Phe		
610	615	620
Phe Glu Ser Asn Ala Glu Ile Val Leu Met Gly Asp Lys Gln Leu Thr		
625	630	635
Asp Asn Phe Arg Leu Gly Phe Thr Val Gly Gly Asn Phe Met Tyr Gln		640
645	650	655
Asn Tyr Glu Ser Leu Asn Ala Gly Val Arg Asn Met Leu Asp Lys Gly		
660	665	670
Gln Trp Ile Phe Asn Ala Ala Asn Met Leu Asn Ala Ala Gly Glu Thr		
675	680	685

Gly His Glu Arg Ala Thr Asn Ser Val Phe Gly Ser Leu Gln Leu Ser  
 690 695 700  
 Cys Lys Gln Tyr Leu Ser Leu Asp Leu Thr Ala Arg Asn Asp Trp Ser  
 705 710 715 720  
 Ser Thr Leu Pro Lys Lys Asn Thr Leu Ser Ser Thr Cys Leu Pro Thr  
 725 730 735

<210> 7108

<211> 347

<212> PRT

<213> B.fragilis

<400> 7108

Tyr Ser Glu Lys Ser Ser Ala Lys Ile Ala Cys Phe Tyr Tyr Phe Cys  
 1 5 10 15  
 Arg Ile Asn Lys Arg Asn Ile Tyr Lys Met Arg Lys Val Tyr Tyr Ile  
 20 25 30  
 Tyr Asn Pro Gln Thr Gln Thr Tyr Asp Arg Ile Tyr Pro Thr Val Arg  
 35 40 45  
 Gln Arg Ala Leu Ser Ile Leu Arg Arg Leu Phe Ile Gly Met Gly Leu  
 50 55 60  
 Gly Ala Gly Ser Phe Ile Ile Leu Leu Leu Ile Phe Gly Ser Pro Ser  
 65 70 75 80  
 Glu Lys Glu Leu Arg Lys Glu Asn Ser Gln Leu Leu Ala Gln Tyr Asn  
 85 90 95  
 Val Leu Ser Arg Arg Leu Asp Glu Ala Met Gly Val Leu Gln Asp Ile  
 100 105 110  
 Gln Gln Arg Asp Asp Asn Leu Tyr Arg Val Ile Phe Met Ala Asp Pro  
 115 120 125  
 Val Ser Pro Ala Ile Arg Gln Ala Gly Tyr Gly Gly Thr Asn Arg Tyr  
 130 135 140  
 Glu Gln Leu Met Asp Met Ala Asn Ser Lys Leu Val Ile Asn Thr Thr  
 145 150 155 160  
 Gln Lys Met Asp Val Leu Ser Lys Gln Leu Tyr Ile Gln Ser Lys Ser  
 165 170 175  
 Phe Asp Asp Val Val Ala Met Cys Lys Asn His Asp Gln Met Leu Lys  
 180 185 190  
 Cys Ile Pro Ala Ile Gln Pro Ile Ser Asn Lys Asp Leu Arg Lys Thr  
 195 200 205  
 Ala Ser Gly Tyr Gly Thr Arg Val Asp Pro Ile Tyr Gly Thr Thr Lys  
 210 215 220  
 Phe His Ala Gly Met Asp Phe Ser Ala His Pro Gly Thr Asp Val Tyr  
 225 230 235 240  
 Ala Thr Gly Asp Gly Thr Val Val Lys Met Gly Trp Glu Thr Gly Tyr  
 245 250 255  
 Gly Asn Thr Val Glu Ile Asp His Gly Phe Gly Tyr Arg Thr Arg Tyr  
 260 265 270  
 Ala His Leu Gln Glu Phe Arg Thr Lys Leu Gly Lys Lys Val Val Arg  
 275 280 285  
 Gly Glu Val Ile Ala Gly Val Gly Ser Thr Gly Lys Ser Thr Gly Pro  
 290 295 300  
 His Leu His Tyr Glu Val His Val Lys Gly Gln Val Val Asn Pro Val  
 305 310 315 320  
 Asn Tyr Tyr Phe Met Asp Leu Ser Ala Glu Asp Tyr Glu Arg Met Ile  
 325 330 335  
 Gln Ile Ala Ala Asn His Gly Lys Val Phe Asp  
 340 345

<210> 7109

<211> 135  
<212> PRT  
<213> B.fragilis

<400> 7109  
Lys Ile Arg Lys Met Lys Gln Arg Val Thr Ser Asn His Ile Glu Arg  
1 5 10 15  
Leu Gln Pro Asn Glu Ile Phe Val Phe Gly Ser Asn Leu Ser Gly His  
20 25 30  
His Gly Gly Ala Ala Leu Leu Ala Met Asn Lys Trp Gly Ala Ile  
35 40 45  
Trp Gly Gln Gly Val Gly Leu Gln Gly Gln Thr Tyr Gly Ile Pro Thr  
50 55 60  
Met Gln Gly Gly Val Glu Thr Ile Arg Pro Tyr Val Asp Glu Phe Ile  
65 70 75 80  
Gln Phe Ala Asn His Pro Glu Met Thr Phe Leu Val Thr Glu Ile  
85 90 95  
Gly Cys Gly Ile Ala Gly Phe Thr Pro Gln Glu Ile Ala Pro Leu Phe  
100 105 110  
Ala Lys Ala Thr Thr Glu Asn Ile His Leu Pro Gln Arg Phe Trp  
115 120 125  
Asp Leu Leu Glu Arg Ile Pro  
130 135

<210> 7110  
<211> 126  
<212> PRT  
<213> B.fragilis

<400> 7110  
Leu Lys Glu Lys Lys Ile Met Gln Asn Thr Glu Arg Asp Leu Lys Leu  
1 5 10 15  
Tyr Tyr Ser Ile Ser Glu Val Ala Gln Met Phe Asp Val Asn Glu Ser  
20 25 30  
Leu Leu Arg Phe Trp Glu Lys Glu Phe Pro Gln Ile Ser Pro Lys Lys  
35 40 45  
Gly Ser Arg Gly Val Arg Gln Tyr Arg Lys Glu Asp Val Glu Thr Ile  
50 55 60  
Arg Leu Ile Tyr His Leu Val Lys Glu Arg Gly Met Thr Leu Pro Gly  
65 70 75 80  
Ala Arg Gln Lys Leu Lys Asp Asn Arg Glu Ala Thr Ile Arg Asn Phe  
85 90 95  
Glu Ile Ile Asp Arg Leu Lys Gln Ile Arg Gln Glu Leu Ile Gly Met  
100 105 110  
Arg Asp Ala Leu Asp Gly Phe Ser Thr Lys Thr Gly Gly Ala  
115 120 125

<210> 7111  
<211> 66  
<212> PRT  
<213> B.fragilis

<400> 7111  
Lys Glu Glu Asn Arg Cys Phe Lys Ser Gln Arg Ile Val Gly Phe Lys  
1 5 10 15  
Gly Arg Ile Leu Trp Phe Ser Ile Asn Ile Leu Asn Leu Lys Tyr Leu  
20 25 30  
Phe Val Ser Glu Ser Trp Leu Met Val Cys Phe Asp Phe Ile Phe Ser  
35 40 45

Arg Leu His Trp Ile Leu Asn Leu Leu Leu Ala Phe Cys Gln Glu Arg  
 50 55 60  
 Thr Pro  
 65

<210> 7112  
 <211> 183  
 <212> PRT  
 <213> B.fragilis

<400> 7112  
 His Ala Ser Leu Ile Asn Met Arg Val Ile Ser Gly Ile Tyr Lys Arg  
 1 5 10 15  
 Arg Arg Phe Asp Val Pro Arg Thr Phe Lys Ala Arg Pro Thr Thr Asp  
 20 25 30  
 Phe Ala Lys Glu Asn Leu Phe Asn Val Leu Ser Asn Tyr Met Asn Phe  
 35 40 45  
 Glu Glu Gly Ile Val Ala Leu Asp Leu Phe Ala Gly Thr Gly Ser Ile  
 50 55 60  
 Ser Ile Glu Leu Val Ser Arg Gly Cys Asp Arg Val Ile Ser Val Glu  
 65 70 75 80  
 Lys Glu Gly Ala His His Ala Phe Ile Ser Lys Ile Met Lys Glu Val  
 85 90 95  
 Gln Thr Asp Lys Cys Leu Pro Ile Arg Gly Asp Val Phe Lys Phe Ile  
 100 105 110  
 Asn Gly Ser His Glu Arg Phe Asp Phe Ile Phe Ala Asp Pro Pro Tyr  
 115 120 125  
 Glu Leu Lys Glu Leu Glu Thr Ile Pro Asp Leu Ile Phe Lys Asn Asn  
 130 135 140  
 Leu Leu Lys Glu Asp Gly Leu Phe Val Leu Glu His Gly Lys Lys Asn  
 145 150 155 160  
 Asn Phe Glu Asp His Pro His Phe Ile Glu Arg Arg Val Tyr Gly Ser  
 165 170 175  
 Val Asn Phe Ser Phe Phe Arg  
 180

<210> 7113  
 <211> 389  
 <212> PRT  
 <213> B.fragilis

<400> 7113  
 Met Lys Gln Glu Lys Gln Thr Glu Leu Leu Arg Thr Gln Gln Met Leu  
 1 5 10 15  
 Asn Glu Val Asn Arg Lys Leu Leu Met Thr Leu Gly Val Ala Glu Val  
 20 25 30  
 Phe Pro Trp Lys Trp Glu Leu Ala Glu His Met Val Trp Phe Asp Ala  
 35 40 45  
 Arg Pro Ser Asp Asp Pro Ala Gly Trp Glu Ile Phe His Asn Asp Ser  
 50 55 60  
 Phe Pro Val Ser Ile Ala Arg Val Tyr Gln Gly Ile Tyr Lys Glu Asp  
 65 70 75 80  
 Arg Leu Arg Val Ile Glu Ala Cys Arg Gly Ile Leu Lys Gly Lys Met  
 85 90 95  
 Lys Lys Val Val Val Glu Leu Arg Phe Trp Ala Lys Lys Arg Glu Gly  
 100 105 110  
 Phe Val Leu Glu Trp Leu Glu Met His Ala Ile Pro Gly Lys Val Asp  
 115 120 125  
 Glu Asn Gly Arg Leu Leu Thr Val Glu Gly Ser Leu Met Ser Ile Thr

130	135	140
Arg Arg Lys Val Met Glu Glu Glu Leu Thr Ala Ala Lys Glu Lys Ala		
145	150	155
Glu Glu Ala Asn Arg Leu Lys Ser Ala Leu Ile Ala Asn Met Asn His		160
165	170	175
Glu Ile Arg Thr Pro Leu Asn Ala Ile Val Gly Phe Ala Ser Leu Leu		
180	185	190
Ser Ile Ile Asp Asp Glu Lys Glu Gln Gln Glu Tyr Ile Gly Leu Ile		
195	200	205
Gln Ser Asn Thr Glu His Leu Leu Arg Leu Met Asn Asp Val Ile Asp		
210	215	220
Leu Ser Asn Ile Glu Ser Gly Val Met Asp Ile Val Gly Ser Asp Val		
225	230	235
Val Leu Asp Ser Leu Met Lys Glu Met Glu Leu Thr Tyr Val Pro Lys		240
245	250	255
Ala Glu Thr Asn Asn Leu Val Leu Ala Trp Asp Arg Glu Gln Ser Asn		
260	265	270
Ala His Ile Tyr Thr Asp Arg Asp Arg Leu Ile Gln Ile Leu Glu His		
275	280	285
Leu Leu Asp Asn Ala Ile Lys Phe Thr Thr Lys Gly Thr Val Arg Trp		
290	295	300
Gly Tyr Gln Glu Lys Glu Asn Gly Gln Ile Arg Phe Tyr Val Thr Asp		
305	310	315
Thr Gly Cys Gly Ile Pro Asn Asp Lys Lys Glu Val Ile Phe Glu Arg		320
325	330	335
Phe Val Lys Leu Asp Ser Phe Thr Gln Gly Leu Gly Leu Gly Leu Ser		
340	345	350
Leu Cys Lys Ile Ile Ile Glu Arg Met His Gly Thr Ile Gly Val Glu		
355	360	365
Ser Glu Val Gly Glu Gly Ser Thr Phe Trp Phe Thr Ile Pro Asn Leu		
370	375	380
Ser Asp Asn His Ile		
385		

&lt;210&gt; 7114

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7114

Val Leu Ser Phe Thr Ile Tyr Leu Arg Thr Pro Ile Phe Ala Val His		
1	5	10
Lys Lys His Arg Thr Ile Met Ser Lys Gln Glu Val Ile Leu Cys Glu		15
20	25	30
Asp Leu Glu Ser Ser Leu Lys Arg Ala Ile Asp Asn Cys Pro His Asp		
35	40	45
Arg Leu Phe Ile Leu Thr Asp Asp His Thr His Arg Leu Cys Leu Ser		
50	55	60
Gln Leu Ala Gly Leu Ser Ile Leu Lys Asp Ala Val Glu Ile Thr Ile		
65	70	75
Gly Ala Glu Asp Val His Lys Thr Leu Glu Thr Leu Ala Ser Val Trp		80
85	90	95
Gln Val Leu Ser Glu Lys Gly Ala Thr Arg His Ser Leu Leu Ile Asn		
100	105	110
Leu Gly Gly Met Val Thr Asp Leu Gly Gly Phe Ala Ala Ala Thr		
115	120	125
Phe Lys Arg Gly Ile Ala Tyr Ile Asn Ile Pro Thr Thr Leu Leu Ala		
130	135	140
Met Val Asp Ala Ser Val Gly Gly Lys Thr Gly Ile Asn Phe Asn Gly		

145	150	155	160
Leu Lys Asn Glu Ile Gly Ala Phe Ala Pro Ala Ala Ser Val Leu Ile			
165	170	175	
Glu Thr Glu Phe Leu Arg Thr Leu Asp Ala His Asn Phe Phe Ser Gly			
180	185	190	
Tyr Ala Glu Met Leu Lys His Gly Leu Ile Ser Asn Thr Ser His Trp			
195	200	205	
Ala Glu Leu Leu Ala Phe Asp Thr Glu Lys Met Asp Tyr Gly Tyr Leu			
210	215	220	
Lys Lys Leu Val Gly His Ser Val Gln Val Lys Glu Asp Ile Val Glu			
225	230	235	240
Gln Asp Pro Phe Glu His Gly Ile Arg Lys Ala Leu Asn Leu Gly His			
245	250	255	
Thr Val Gly His Ala Phe Glu Ser Leu Ala Leu Ala Glu Asn Arg Pro			
260	265	270	
Val Leu His Gly Tyr Ala Val Ala Trp Gly Ile Val Cys Glu Leu Tyr			
275	280	285	
Leu Ser His Leu Lys Ala Gly Phe Pro Lys Glu Lys Met Arg Gln Thr			
290	295	300	
Ile Gln Phe Ile Lys Asp Asn Tyr Gly Ala Phe His Phe Asp Cys Lys			
305	310	315	320
Gln Tyr Asp Arg Leu Tyr Glu Phe Met Gln His Asp Lys Lys Asn Ser			
325	330	335	
Ala Gly Val Ile Asn Phe Thr Leu Leu Lys Glu Ile Gly Asp Ile Ser			
340	345	350	
Ile Asn Arg Thr Ala Asp Lys Asp Thr Ile Phe Glu Met Phe Asp Phe			
355	360	365	
Tyr Arg Glu Cys Met Gly Met			
370	375		

&lt;210&gt; 7115

&lt;211&gt; 294

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7115

Thr Tyr Ile Cys Cys Leu Lys Gln Thr Phe Met Lys Thr Asp Arg Leu			
1	5	10	15
Leu Ala Asp Thr Lys Thr Ile Arg Tyr Glu Glu Thr Asp Leu Ala Ser			
20	25	30	
Leu Ile Ser Ala Pro Tyr His Phe Arg Cys Gly Ile Tyr Leu Ile Cys			
35	40	45	
Thr Gln Gly Glu Ala Val Val Ser Thr Gly Val Gln Lys Tyr Ile Phe			
50	55	60	
Asn Glu Gln Thr Glu Leu Ile Phe Leu Thr Gly Gly Leu Leu Gln Val			
65	70	75	80
Leu Glu Thr Ser Gly Asp Leu Gln Val Lys Met Leu Met Phe Pro Lys			
85	90	95	
Glu Ala Phe Leu Asn Ala Met Leu Pro Ile Asp Thr Pro Tyr Phe Asn			
100	105	110	
Tyr Thr His Glu His Pro Cys Tyr His His Thr Ala Asp Glu Arg Ser			
115	120	125	
Gln Lys Thr Trp Arg Gln Ile Asn Leu Trp Met Asp Met Ala Gln Met			
130	135	140	
Leu Phe Thr Glu Pro Met Pro Gln Phe Arg Gly Gln Gln Glu His Asn			
145	150	155	160
Phe Leu Gln Ser Leu Leu Met Trp Leu Phe Asn Thr Ile Pro Glu Lys			
165	170	175	
Leu Ala Val Ser Lys Gln Tyr Ser Arg Thr Gln Leu Leu Cys His Arg			

180	185	190
Phe Met Gln Leu Ile Arg Glu Tyr Ser Met His Glu His Gln Val Ala		
195	200	205
Phe Tyr Ala Glu Lys Leu Cys Ile Ser Ser Arg Tyr Leu His Lys Ile		
210	215	220
Thr Val Arg His Leu Asp Gly Lys Lys Pro Lys Gln Leu Ile Asp Glu		
225	230	235
Gln Leu Val Ala Glu Ile Lys Val Leu Leu Asn Glu Pro Arg Leu Ser		
245	250	255
Val Thr Glu Ile Ala Glu Gln Leu His Phe Pro Asp Gln Ser Tyr Leu		
260	265	270
Thr His Phe Phe Lys Lys Asn Thr Gly Ile Ser Pro Lys Glu Phe Arg		
275	280	285
Ala Ile Lys Asn Leu Gly		
290		

&lt;210&gt; 7116

&lt;211&gt; 199

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7116

Ser Ile Thr Cys Ser Pro His Pro Gln Asn Gln Gln Leu Lys Lys Met			
1	5	10	15
Asp Asp Thr Phe Asp Ile Thr Tyr Lys Ala Leu Phe Arg Arg Tyr Tyr			
20	25	30	
Pro Asn Leu Met Phe Tyr Ala Thr Arg Leu Val Gly Asp Glu Glu Ala			
35	40	45	
Glu Asp Val Val Gln Asp Val Phe Val Glu Leu Trp Lys Arg Arg Asp			
50	55	60	
Ser Met Val Ile Gly Asp Gln Ile Gln Ala Phe Leu Tyr Arg Ala Val			
65	70	75	80
Tyr Thr Arg Ala Leu Asn Val Leu Lys His Arg Ser Ile Glu Asp Gly			
85	90	95	
Tyr Cys Ala Ala Val Lys Glu Ile Asn Gln Lys Arg Ala Glu Phe Tyr			
100	105	110	
Gln Pro Asp Asn Asn Glu Val Ile Arg Arg Ile Glu Asp Arg Glu Leu			
115	120	125	
Arg Asn Glu Ile Tyr Gln Ala Ile Asn Glu Leu Pro Asp Lys Cys Lys			
130	135	140	
Glu Val Phe Lys Leu Ser Tyr Leu His Glu Met Lys Asn Lys Glu Ile			
145	150	155	160
Ala Asp Val Met Gly Val Ser Leu Arg Thr Val Glu Ala His Met Tyr			
165	170	175	
Lys Ala Leu Lys Phe Leu Arg Asn Arg Leu Gly His Leu Trp Phe Leu			
180	185	190	
Phe Leu Leu Phe Phe Ile Lys			
195			

&lt;210&gt; 7117

&lt;211&gt; 478

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7117

Leu Phe Ser Arg Thr Lys Met Ile Asn Asn Tyr Leu Glu Arg Gln Ile			
1	5	10	15
Lys Glu Asn Phe Ser Tyr Gln Pro Thr Phe Glu Gln Glu Ile Ala Val			
20	25	30	

Lys Ser Leu Ser Glu Phe Leu Leu Ser Thr Ala Asn Asp Thr Val Phe  
     35                        40                        45  
 Val Leu Arg Gly Tyr Ala Gly Thr Gly Lys Thr Ser Leu Val Gly Ala  
     50                        55                        60  
 Leu Val Lys Ala Met Asp Lys Leu Gln Gln Lys Ser Val Leu Leu Ala  
     65                        70                        75                        80  
 Pro Thr Gly Arg Ala Ala Lys Val Phe Ser Ala Tyr Ala Gly His Pro  
     85                        90                        95  
 Ala Phe Thr Ile His Lys Lys Ile Tyr Arg Gln Gln Ser Phe Ser Asn  
     100                       105                       110  
 Glu Val Ser Asn Phe Ser Ile Asn Asp Asn Leu Thr Thr His Thr Leu  
     115                       120                       125  
 Tyr Ile Val Asp Glu Ala Ser Met Ile Ser Asn Glu Gly Leu Ser Gly  
     130                       135                       140  
 Ser Met Phe Gly Thr Gly Arg Leu Leu Asp Asp Leu Val Glu Phe Val  
     145                       150                       155                       160  
 Tyr Ser Gly Val Gly Cys Arg Leu Leu Leu Met Gly Asp Thr Ala Gln  
     165                       170                       175  
 Leu Pro Pro Val Gly Glu Glu Gln Ser Pro Ala Leu Ala Thr Glu Ala  
     180                       185                       190  
 Leu Lys Gly Tyr Gly Leu Asn Val Ile Glu Val Asp Leu Thr Gln Val  
     195                       200                       205  
 Val Arg Gln Val Gln Ser Ser Gly Ile Leu Trp Asn Ala Thr Gln Ile  
     210                       215                       220  
 Arg Gln Leu Ile Ala Glu Asp Glu Cys Phe Ser Leu Pro Lys Ile Lys  
     225                       230                       235                       240  
 Val Ser Gly Phe Pro Asp Ile Gln Val Val Arg Gly Asp Glu Leu Ile  
     245                       250                       255  
 Asp Thr Leu Thr Gly Cys Tyr Glu Lys Asp Gly Met Asp Glu Thr Ile  
     260                       265                       270  
 Val Val Cys Arg Ser Asn Lys Arg Ala Asn Ile Tyr Asn Lys Gly Ile  
     275                       280                       285  
 Arg Ala Gln Ile Leu Tyr Arg Glu Asp Glu Leu Asn Thr Gly Asp Leu  
     290                       295                       300  
 Leu Met Val Ala Lys Asn Asn Tyr Phe Trp Thr Glu Lys Tyr Lys Glu  
     305                       310                       315                       320  
 Met Asp Phe Ile Ala Asn Gly Glu Ile Ala Val Val Arg Arg Val Arg  
     325                       330                       335  
 Arg Thr Arg Glu Leu Tyr Gly Phe Arg Phe Ala Glu Val Leu Leu Ala  
     340                       345                       350  
 Phe Pro Asp Gln Asn Asp Phe Glu Leu Glu Ala Asn Leu Leu Asp  
     355                       360                       365  
 Thr Leu His Ser Asp Ala Pro Ala Leu Pro Lys Thr Glu Asn Asp Arg  
     370                       375                       380  
 Leu Phe Tyr Ser Val Leu Glu Asp Tyr Val Asp Ile Thr Val Lys Arg  
     385                       390                       395                       400  
 Glu Arg Met Lys Lys Met Lys Ala Asp Pro His Tyr Asn Ala Leu Gln  
     405                       410                       415  
 Val Lys Tyr Ala Tyr Ala Val Thr Cys His Lys Ala Gln Gly Gly Gln  
     420                       425                       430  
 Trp Gln Asn Val Phe Leu Asp Gln Gly Tyr Met Ser Asp Glu Tyr Leu  
     435                       440                       445  
 Thr Pro Asp Tyr Phe Arg Trp Leu Tyr Thr Ala Phe Thr Arg Ala Ser  
     450                       455                       460  
 Lys Thr Leu Tyr Leu Val Asn Tyr Pro Glu Glu Gln Ile Glu  
     465                       470                       475

&lt;210&gt; 7118

&lt;211&gt; 65

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7118

Phe	Gly	Tyr	Arg	Asn	Gln	Leu	Pro	Arg	Gln	Asn	Asn	Arg	Gln	Phe	Ile
1					5				10					15	
Leu	Ser	Lys	Asn	Met	Asn	Ile	Ile	Lys	Asp	Thr	Asp	Leu	Gly	Ser	Thr
						20			25					30	
Ser	Gln	Thr	Gln	Asn	Asp	His	Pro	Asn	Phe	Gly	Val	Gly	Arg	Asn	Arg
						35			40					45	
Arg	His	Thr	Asn	Val	Leu	His	Val	Leu	Thr	Asn	His	Lys	Phe	Ile	Pro
						50			55					60	
Gln															
65															

&lt;210&gt; 7119

<211> 766  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7119

Tyr	Pro	Tyr	Ser	Asn	Thr	Leu	Ile	His	Thr	Met	Arg	Lys	Ile	Leu	Leu
1						5			10					15	
Thr	Ala	Cys	Leu	Ile	Ala	Cys	Ser	Leu	Met	Ala	Glu	Ala	Lys	Asp	Trp
						20			25					30	
Thr	Gln	Tyr	Val	Asn	Pro	Leu	Met	Gly	Thr	Gln	Ser	Ser	Phe	Glu	Leu
						35			40					45	
Ser	Thr	Gly	Asn	Thr	Tyr	Pro	Ala	Ile	Ala	Arg	Pro	Trp	Gly	Met	Asn
						50			55					60	
Phe	Trp	Thr	Pro	Gln	Thr	Gly	Lys	Met	Gly	Asp	Gly	Trp	Gln	Tyr	Thr
						65			70			75		80	
Tyr	Thr	Ala	Asn	Lys	Ile	Arg	Gly	Phe	Lys	Gln	Thr	His	Gln	Pro	Ser
						85			90					95	
Pro	Trp	Ile	Asn	Asp	Tyr	Gly	Gln	Phe	Ser	Ile	Met	Pro	Val	Thr	Gly
						100			105					110	
Lys	Leu	Glu	Phe	Asp	Glu	Glu	Lys	Arg	Ala	Ser	Trp	Phe	Ser	His	Lys
						115			120					125	
Gly	Glu	Ile	Ala	Thr	Pro	Ser	Tyr	Tyr	Lys	Val	Tyr	Leu	Ala	Glu	His
						130			135					140	
Asp	Val	Val	Thr	Glu	Met	Thr	Pro	Thr	Glu	Arg	Ala	Val	Leu	Phe	Arg
						145			150					160	
Phe	Thr	Phe	Pro	Glu	Asn	Glu	His	Ser	Tyr	Ile	Val	Val	Asp	Ala	Phe
						165			170					175	
Asp	Lys	Gly	Ser	Tyr	Val	Lys	Val	Ile	Pro	Glu	Glu	Asn	Lys	Ile	Ile
						180			185					190	
Gly	Tyr	Thr	Thr	Arg	Asn	Ser	Gly	Gly	Val	Pro	Glu	Asn	Phe	Lys	Asn
						195			200					205	
Tyr	Phe	Val	Ile	Glu	Phe	Asp	Lys	Pro	Phe	Thr	Tyr	Lys	Gly	Thr	Phe
						210			215					220	
Ala	Asp	Lys	Lys	Leu	Glu	Gly	Asn	Leu	Glu	Gln	Lys	Ala	Asp	His	
						225			230					240	
Thr	Gly	Ala	Ile	Ile	Gly	Phe	Ser	Thr	Arg	Lys	Gly	Glu	Ile	Val	His
						245			250					255	
Ala	Arg	Ile	Ala	Ser	Ser	Phe	Ile	Asn	Phe	Glu	Gln	Ala	Ala	Gln	Asn
						260			265					270	
Leu	Lys	Glu	Leu	Gly	Asn	Asp	Ser	Phe	Glu	Gln	Leu	Ala	Gln	Lys	Gly
						275			280					285	
Asn	Asp	Ala	Trp	Asn	Asn	Val	Leu	Gly	Lys	Ile	Gln	Gly	Glu	Gly	Gly
						290			295					300	

Asn Leu Asp Gln Tyr Arg Thr Phe Tyr Ser Cys Leu Tyr Arg Ser Leu  
 305 310 315 320  
 Leu Phe Pro Arg Lys Phe Tyr Glu Phe Thr Ala Asp Gly Gln Pro Ile  
 325 330 335  
 His Tyr Ser Pro Tyr Asn Gly Gln Val Leu Pro Gly Tyr Met Tyr Thr  
 340 345 350  
 Asp Thr Gly Phe Trp Asp Thr Phe Arg Cys Leu Phe Pro Phe Leu Asn  
 355 360 365  
 Leu Met Tyr Pro Ser Val Asn Lys Glu Ile Gln Glu Gly Leu Ile Asn  
 370 375 380  
 Thr Tyr Lys Glu Ser Gly Phe Phe Pro Glu Trp Ala Ser Pro Gly His  
 385 390 395 400  
 Arg Gly Cys Met Ile Gly Asn Asn Ser Ala Ser Val Leu Val Asp Ala  
 405 410 415  
 Tyr Met Lys Gly Val Lys Val Asp Asp Val Lys Thr Leu Tyr Glu Gly  
 420 425 430  
 Leu Ile His Gly Thr Glu Asn Val His Pro Glu Val Ser Ser Thr Gly  
 435 440 445  
 Arg Leu Gly Tyr Gln Tyr Tyr Asn Lys Leu Gly Tyr Val Pro Tyr Asp  
 450 455 460  
 Val Lys Ile Asn Glu Asn Thr Ala Arg Thr Leu Glu Tyr Ala Tyr Asp  
 465 470 475 480  
 Asp Trp Cys Ile Tyr Gln Leu Ala Lys Ala Leu Asn Arg Pro Lys Lys  
 485 490 495  
 Glu Ile Glu Leu Phe Ala Lys Arg Ala Met Asn Tyr Arg Asn Val Phe  
 500 505 510  
 Asp Lys Glu Ser Lys Leu Met Arg Gly Arg Asn Glu Asn Gly Gln Phe  
 515 520 525  
 Gln Ser Pro Phe Ser Pro Leu Lys Trp Gly Asp Ala Phe Thr Glu Gly  
 530 535 540  
 Asn Ser Trp His Tyr Ser Trp Ser Val Phe His Asp Pro Gln Gly Leu  
 545 550 555 560  
 Ile Asp Leu Met Gly Gly Lys Lys Met Phe Ile Thr Met Leu Asp Ser  
 565 570 575  
 Val Phe Ala Val Pro Pro Val Phe Asp Asp Ser Tyr Tyr Gly Gln Val  
 580 585 590  
 Ile His Glu Ile Arg Glu Met Thr Val Met Asn Met Gly Asn Tyr Ala  
 595 600 605  
 His Gly Asn Gln Pro Ile Gln His Met Ile Tyr Leu Tyr Asn Tyr Ala  
 610 615 620  
 Gly Gln Pro Trp Lys Ala Gln Tyr Trp Leu Arg Gln Val Met Asp Arg  
 625 630 635 640  
 Met Tyr Thr Pro Gly Pro Asp Gly Tyr Cys Gly Asp Glu Asp Asn Gly  
 645 650 655  
 Gln Thr Ser Ala Trp Tyr Val Phe Ser Ala Leu Gly Phe Tyr Pro Val  
 660 665 670  
 Cys Pro Gly Thr Asp Glu Tyr Val Ile Gly Ala Pro Leu Phe Lys Lys  
 675 680 685  
 Ala Thr Leu His Phe Glu Asn Gly Asn Asn Leu Val Ile Asp Ala Gln  
 690 695 700  
 Asn Asn Ser Lys Glu Asn Leu Tyr Ile Glu Ser Leu Arg Val Asn Gly  
 705 710 715 720  
 Gln Glu Ser Thr Arg Asn Tyr Leu Lys His Ala Asp Leu Leu Gln Gly  
 725 730 735  
 Gly Thr Ile Glu Phe Lys Met Gly Ser His Pro Asn Leu Asn Arg Gly  
 740 745 750  
 Ile Asn Asp Asp Asp Ala Pro Tyr Ser Phe Ser Lys Met Lys  
 755 760 765

<210> 7120  
<211> 430  
<212> PRT  
<213> B.fragilis

<220>  
<221> UNSURE  
<222> (70)  
<223> Identity of amino acid sequences at the above locations are unknown.

<400> 7120

Arg	Gln	Lys	Arg	Ile	Asp	Phe	Leu	Phe	Leu	Gln	Pro	Asn	Ile	Thr	Ile
1				5				10					15		
Glu	Ile	Lys	Thr	Met	Arg	Tyr	Leu	Leu	Ser	Ala	Pro	Ser	Gln	Ile	Lys
				20				25					30		
Ala	Thr	Ile	Gln	Leu	Pro	Ala	Ser	Lys	Ser	Ile	Ser	Asn	Arg	Ala	Leu
				35				40				45			
Ile	Ile	His	Ala	Leu	Ser	Lys	Gly	Asp	Asp	Val	Pro	Ser	Asn	Leu	Ser
				50				55				60			
Asp	Cys	Asp	Asp	Thr	Xaa	Val	Met	Ile	Lys	Ala	Leu	Thr	Glu	Gly	Asn
					65			70			75		80		
Glu	Val	Ile	Asp	Ile	Leu	Ala	Ala	Gly	Thr	Ala	Met	Arg	Phe	Leu	Thr
					85				90				95		
Ala	Tyr	Leu	Ser	Ser	Thr	Pro	Gly	Ile	His	Thr	Ile	Thr	Gly	Thr	Glu
					100				105				110		
Arg	Met	Gln	Gln	Arg	Pro	Ile	Gln	Ile	Leu	Val	Asn	Ala	Leu	Arg	Glu
					115				120				125		
Leu	Gly	Ala	His	Ile	Glu	Tyr	Val	Arg	Asn	Glu	Gly	Phe	Pro	Pro	Leu
					130				135				140		
Arg	Ile	Glu	Gly	Arg	Glu	Leu	Thr	Gly	Ser	Glu	Ile	Thr	Leu	Lys	Gly
					145				150			155		160	
Asn	Val	Ser	Ser	Gln	Tyr	Ile	Ser	Ala	Leu	Met	Ile	Gly	Pro	Val	
						165				170			175		
Leu	Lys	Asn	Gly	Leu	Gln	Leu	Arg	Leu	Thr	Gly	Glu	Ile	Val	Ser	Arg
						180				185			190		
Pro	Tyr	Ile	Asn	Leu	Thr	Leu	Gln	Leu	Met	Lys	Asp	Phe	Gly	Ala	Ser
						195				200			205		
Ala	Ser	Trp	Thr	Ser	Asp	Gln	Asn	Ile	Gln	Val	Asp	Pro	Gln	Pro	Tyr
						210				215			220		
His	Cys	Leu	Pro	Phe	Thr	Val	Glu	Ser	Asp	Trp	Ser	Ala	Ala	Ser	Tyr
						225				230			235		240
Trp	Tyr	Gln	Ile	Ala	Ala	Leu	Ser	Pro	Gln	Ala	Asp	Ile	Glu	Leu	Thr
						245				250			255		
Gly	Leu	Phe	Arg	His	Ser	Tyr	Gln	Gly	Asp	Ser	Arg	Gly	Ala	Glu	Val
						260				265			270		
Phe	Ala	Arg	Leu	Gly	Val	Ala	Thr	Glu	Tyr	Thr	Glu	Thr	Gly	Ile	Arg
						275				280			285		
Leu	Lys	Lys	Asn	Gly	Thr	Cys	Val	Glu	Arg	Leu	Asp	Glu	Asp	Phe	Val
						290				295			300		
Asp	Ile	Pro	Asp	Leu	Ala	Gln	Thr	Phe	Val	Val	Thr	Cys	Ala	Leu	Leu
						305				310			315		320
Asn	Val	Pro	Phe	Arg	Phe	Thr	Gly	Leu	Gln	Ser	Leu	Lys	Ile	Lys	Glu
						325				330			335		
Thr	Asp	Arg	Ile	Glu	Ala	Leu	Lys	Thr	Glu	Met	Lys	Lys	Leu	Gly	Tyr
						340				345			350		
Ile	Leu	His	Asp	Lys	Asn	Asp	Ser	Ile	Leu	Ser	Trp	Asp	Gly	Glu	Arg
						355				360			365		
Val	Glu	Gln	Gln	Thr	Cys	Pro	Val	Ile	Lys	Thr	Tyr	Glu	Asp	His	Arg
						370				375			380		

Met Ala Met Ala Phe Ala Pro Ala Ala Ile His Tyr Pro Thr Ile Gln  
 385 390 395 400  
 Ile Asp Glu Pro Gln Val Val Ser Lys Ser Tyr Pro Gly Tyr Trp Asp  
 405 410 415  
 Asp Leu Arg Lys Ala Gly Phe Gly Ile Lys Val Gly Glu Glu  
 420 425 430

&lt;210&gt; 7121

&lt;211&gt; 876

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7121

Ile Tyr Arg Ser Met Leu Thr Ala Lys Glu Thr Arg Asp Ser Phe Lys  
 1 5 10 15  
 Asn Phe Phe Glu Ser Lys Gly His Gln Ile Val Pro Ser Ala Pro Met  
 20 25 30  
 Val Ile Lys Asp Asp Pro Thr Leu Met Phe Thr Asn Ala Gly Met Asn  
 35 40 45  
 Gln Phe Lys Asp Ile Ile Leu Gly Asn His Pro Ala Lys Tyr His Arg  
 50 55 60  
 Val Ala Asp Ser Gln Lys Cys Leu Arg Val Ser Gly Lys His Asn Asp  
 65 70 75 80  
 Leu Glu Glu Val Gly His Asp Thr Tyr His His Thr Met Phe Glu Met  
 85 90 95  
 Leu Gly Asn Trp Ser Phe Gly Asp Tyr Phe Lys Lys Glu Ala Ile Ser  
 100 105 110  
 Trp Ala Trp Glu Tyr Leu Val Asp Val Leu Lys Leu Asn Pro Glu His  
 115 120 125  
 Leu Tyr Ala Thr Val Phe Glu Gly Ser Pro Glu Glu Leu Glu Arg  
 130 135 140  
 Asp Asn Glu Ala Ala Ser Tyr Trp Glu Gln Tyr Leu Pro Lys Asp His  
 145 150 155 160  
 Ile Ile Asn Gly Asn Lys His Asp Asn Phe Trp Glu Met Gly Asp Thr  
 165 170 175  
 Gly Pro Cys Gly Pro Cys Ser Glu Ile His Ile Asp Leu Arg Pro Ala  
 180 185 190  
 Glu Glu Arg Ala Lys Ile Ser Gly Arg Asp Leu Val Asn His Asp His  
 195 200 205  
 Pro Gln Val Ile Glu Ile Trp Asn Leu Val Phe Met Gln Tyr Asn Arg  
 210 215 220  
 Lys Ala Asp Ser Thr Leu Glu Pro Leu Pro Ala Lys Val Ile Asp Thr  
 225 230 235 240  
 Gly Met Gly Phe Glu Arg Leu Cys Met Ala Leu Gln Gly Lys Thr Ser  
 245 250 255  
 Asn Tyr Asp Thr Asp Val Phe Gln Pro Leu Ile Lys Ala Ile Ala Gln  
 260 265 270  
 Met Ala Gly Thr Glu Tyr Gly Lys Asn Glu Gln Asn Asp Ile Ala Met  
 275 280 285  
 Arg Val Ile Ala Asp His Ile Arg Thr Ile Ala Phe Ser Ile Thr Asp  
 290 295 300  
 Gly Gln Leu Pro Ser Asn Ala Lys Ala Gly Tyr Val Ile Arg Arg Ile  
 305 310 315 320  
 Leu Arg Arg Ala Val Arg Tyr Gly Tyr Thr Phe Leu Gly Gln Lys Gln  
 325 330 335  
 Ala Phe Met Tyr Lys Leu Leu Pro Val Leu Ile Asp Ser Met Gly Asp  
 340 345 350  
 Ala Tyr Pro Glu Leu Ile Ala Gln Lys Glu Leu Ile Glu Lys Val Ile  
 355 360 365

Lys Glu Glu Glu Glu Ser Phe Leu Arg Thr Leu Glu Thr Gly Ile Arg  
 370 375 380  
 Leu Leu Asp Lys Thr Met Ala Asp Thr Lys Ala Asn Gly Lys Thr Glu  
 385 390 395 400  
 Ile Ser Gly Lys Asp Ala Phe Thr Leu Tyr Asp Thr Phe Gly Phe Pro  
 405 410 415  
 Leu Asp Leu Thr Glu Leu Ile Leu Arg Glu Asn Gly Met Thr Val Asn  
 420 425 430  
 Val Glu Glu Phe Asp Ala Glu Met Gln Gln Gln Lys Gln Arg Ala Arg  
 435 440 445  
 Asn Ala Ala Ala Ile Glu Thr Gly Asp Trp Ile Ile Leu Lys Glu Gly  
 450 455 460  
 Thr Thr Glu Phe Val Gly Tyr Asp Tyr Thr Glu Tyr Glu Thr Ser Ile  
 465 470 475 480  
 Leu Arg Tyr Arg Gln Val Lys Gln Lys Asn Gln Thr Leu Tyr Gln Ile  
 485 490 495  
 Val Leu Asp Tyr Thr Pro Phe Tyr Ala Glu Ser Gly Gly Gln Val Gly  
 500 505 510  
 Asp Thr Gly Val Leu Val Asn Glu Phe Glu Thr Ile Glu Val Ile Asp  
 515 520 525  
 Thr Lys Lys Glu Asn Asn Leu Pro Ile His Ile Thr Lys Asn Leu Pro  
 530 535 540  
 Glu His Pro Glu Ala Pro Met Met Ala Cys Val Asp Thr Asp Lys Arg  
 545 550 555 560  
 Ala Ala Cys Ala Ala Asn His Ser Ala Thr His Leu Leu Asp Glu Ala  
 565 570 575  
 Leu Arg Glu Val Leu Gly Glu His Val Glu Gln Lys Gly Ser Leu Val  
 580 585 590  
 Thr Pro Asp Ser Leu Arg Phe Asp Phe Ser His Phe Gln Lys Val Thr  
 595 600 605  
 Asp Glu Glu Leu Arg Lys Val Glu His Leu Val Asn Ala Lys Ile Arg  
 610 615 620  
 Ala Asn Val Pro Leu Gln Glu His Arg Asn Ile Pro Ile Glu Glu Ala  
 625 630 635 640  
 Lys Glu Leu Gly Ala Ile Ala Leu Phe Gly Glu Lys Tyr Gly Asp His  
 645 650 655  
 Val Arg Val Ile Gln Phe Gly Ser Ser Ile Glu Phe Cys Gly Gly Thr  
 660 665 670  
 His Val Ala Ala Thr Gly Asn Ile Gly Met Val Lys Ile Ile Ser Glu  
 675 680 685  
 Ser Ser Val Ala Ala Gly Val Arg Arg Ile Glu Ala Tyr Thr Gly Ala  
 690 695 700  
 Arg Val Glu Glu Met Leu Asp Thr Ile Gln Asp Thr Leu Ser Asp Leu  
 705 710 715 720  
 Lys Ala Leu Phe Asn Asn Ala Pro Asp Leu Gly Val Ala Ile Arg Lys  
 725 730 735  
 Tyr Ile Asp Glu Asn Ala Gly Leu Lys Gln Val Glu Asp Phe Met  
 740 745 750  
 Lys Glu Lys Glu Ala Ala Val Lys Glu Arg Leu Leu Lys Asn Val Gln  
 755 760 765  
 Glu Ile Asn Gly Ile Lys Val Ile Lys Phe Cys Leu Pro Met Pro Ala  
 770 775 780  
 Glu Val Val Lys Asn Ile Ala Phe Gln Leu Arg Gly Glu Ile Thr Glu  
 785 790 795 800  
 Asn Leu Phe Phe Val Ala Gly Thr Val Asp Ala Asn Lys Pro Met Leu  
 805 810 815  
 Thr Val Met Ile Ser Asp Asn Leu Val Ala Gly Gly Leu Lys Ala Gly  
 820 825 830  
 Asn Leu Val Lys Glu Ala Ala Lys Leu Ile Gln Gly Gly Gly Gly

835	840	845
Gln Pro His Phe Ala Thr Ala	Gly Gly Lys Asn Pro Asp Gly	Leu Asn
850	855	860
Ala Ala Val Glu Lys Val Leu	Glu Leu Ala Gly Ile	
865	870	875

&lt;210&gt; 7122

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7122

Glu Lys Ala Ile Phe Val Thr Leu Asn Leu Asp Lys Met Lys Ala Leu		
1 5 10 15		
Leu Pro Val Phe Cys Arg Pro Leu Gly Tyr Val Ile Leu Val Ile Ser		
20 25 30		
Met Phe Ile Pro Phe Leu Leu Met Gln Gly Met Val Thr Asp Ser		
35 40 45		
Asn Leu Leu Phe Tyr Lys Glu Cys Ile Lys Leu Leu Met Ile Leu Gly		
50 55 60		
Ala Met Met Ile Ile Phe Ala Leu Ser Arg Asn Glu Gly Arg Glu Thr		
65 70 75 80		
Glu Ile Ile Arg Asn Lys Ala Thr Arg Asn Ala Ile Phe Leu Thr Val		
85 90 95		
Leu Phe Leu Phe Gly Gly Met Leu Tyr Arg Val Ala Thr Gly Asp Ile		
100 105 110		
Met Thr Val Asp Thr Ser Ser Phe Leu Ile Phe Leu Ile Ile Asn Val		
115 120 125		
Leu Cys Leu Glu Phe Gly Met Gln Lys Ala Arg Ile Asp Lys Ile Phe		
130 135 140		
Lys Arg		
145		

&lt;210&gt; 7123

&lt;211&gt; 656

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7123

Arg His Asp Met Lys Phe Val Asn Arg Phe Phe Met Ile Leu Val Ala		
1 5 10 15		
Leu Cys Leu Val Cys Pro Gly Val Ser Ala Val Val Asn Pro Lys Pro		
20 25 30		
Phe Val Ile Pro Glu Leu Lys Glu Trp Lys Gly Ala Glu Gly Ala Phe		
35 40 45		
Val Pro Thr Glu Thr Thr Lys Ile Val Cys Pro Ala Asn Gln Pro Glu		
50 55 60		
Leu Leu Arg Ile Ala Arg Met Leu Ala Asp Asp Cys Glu Thr Met Phe		
65 70 75 80		
Gly His Lys Pro Glu Val Val Gln Gly Lys Gly Gly Ala Gly Asp Val		
85 90 95		
Ile Leu Ala Ile Arg Ala Asp Lys Lys Leu Gly Lys Glu Gly Tyr Thr		
100 105 110		
Val Lys Val Thr Asp Arg Ile Leu Leu Thr Ala Pro Glu Ser Ile Gly		
115 120 125		
Val Tyr Trp Gly Thr Arg Thr Leu Leu Gln Ile Ala Glu Gln Ser Glu		
130 135 140		
Asn His Gln Phe Pro Lys Gly Thr Leu Arg Asp Phe Pro Asp Tyr Ala		
145 150 155 160		

Met Arg Gly Phe Met Ile Asp Cys Gly Arg Lys Phe Ile Pro Leu Ser  
                   165                  170                  175  
 Phe Leu Gln Asp Tyr Val Lys Ile Met Ala Tyr Tyr Lys Met Asn Thr  
                   180                  185                  190  
 Leu Gln Ile His Leu Asn Asp Asn Gly Phe Lys Gln Phe Phe Gly His  
                   195                  200                  205  
 Asp Trp Ser Lys Thr Tyr Ala Ala Phe Arg Leu Glu Ser Asp Thr Tyr  
                   210                  215                  220  
 Pro Gly Leu Ala Ala Glu Asp Gly Tyr Tyr Thr Lys Arg Glu Phe Ile  
                   225                  230                  235                  240  
 Asp Leu Gln Lys Leu Ala Glu Asn Leu Tyr Val Glu Ile Ile Pro Glu  
                   245                  250                  255  
 Ile Asp Ala Pro Ala His Thr Leu Ala Phe Thr His Tyr Lys Pro Glu  
                   260                  265                  270  
 Ile Gly Ser Lys Glu Tyr Gly Met Asp His Leu Asp Leu Phe Asn Pro  
                   275                  280                  285  
 Glu Thr Tyr Lys Phe Met Asp Gly Leu Phe Lys Glu Tyr Leu Glu Gly  
                   290                  295                  300  
 Asp Glu Pro Val Phe Arg Gly Lys Lys Val His Ile Gly Thr Asp Glu  
                   305                  310                  315                  320  
 Tyr Ser Asn Lys Lys Asp Val Val Glu Lys Phe Arg Ala Phe Thr  
                   325                  330                  335  
 Asp His Tyr Ile Arg Tyr Val Glu Ser Phe Gly Lys Gln Ala Cys Val  
                   340                  345                  350  
 Trp Gly Ala Leu Thr His Ala Lys Gly Asp Thr Pro Val Lys Ser Glu  
                   355                  360                  365  
 Asn Val Ile Met Ser Ala Trp Tyr Asn Gly Tyr Ala Asn Pro Lys Asp  
                   370                  375                  380  
 Met Ile Glu Gln Gly Tyr Lys Leu Ile Ser Ile Pro Asp Gly Leu Val  
                   385                  390                  395                  400  
 Tyr Ile Val Pro Ala Ala Gly Tyr Tyr Asp Tyr Leu Asn Thr Lys  
                   405                  410                  415  
 Tyr Leu Tyr Glu Asn Trp Thr Pro Val Gln Ile Gly Lys Ala Val Phe  
                   420                  425                  430  
 Pro Glu Lys Asp Pro Ser Ile Leu Gly Gly Met Phe Ala Val Trp Asn  
                   435                  440                  445  
 Asp His Val Gly Asn Gly Ile Ser Thr Lys Asp Ile His His Arg Val  
                   450                  455                  460  
 Tyr Pro Ala Leu Gln Thr Leu Ala Val Lys Met Trp Thr Gly Lys Asp  
                   465                  470                  475                  480  
 Val Ser Val Pro Tyr Ala Asp Phe Asp Lys Gln Arg Asn Ala Ile Ser  
                   485                  490                  495  
 Glu Ala Pro Gly Val Asn Gln Leu Gly Arg Ile Gly Thr Thr Pro Gly  
                   500                  505                  510  
 Leu Val Tyr Glu Gln Ala Ser Val Ala Pro Asn Ser Glu Thr Pro His  
                   515                  520                  525  
 Arg Glu Ile Gly Tyr Asp Tyr Leu Val Thr Phe Asp Ile Asp Gly Ala  
                   530                  535                  540  
 Asn Glu Ala Lys Gly Thr Glu Leu Phe Arg Ser Pro Asp Ala Val Phe  
                   545                  550                  555                  560  
 Tyr Leu Ser Asp Pro Ile Arg Gly Met Leu Gly Phe Ala Arg Asp Gly  
                   565                  570                  575  
 Tyr Leu Asn Thr Phe Ser His Arg Ile His Lys Gly Glu Lys Ala Thr  
                   580                  585                  590  
 Ile Gly Ile Ser Gly Asp Asn Lys Ser Thr Arg Leu Leu Ile Asn Gly  
                   595                  600                  605  
 Gln Val Val Glu Glu Met Asn Thr Gln Lys Leu Tyr Tyr Asn Ala Gly  
                   610                  615                  620  
 Lys Asp Ser Met Asn Tyr Val Arg Thr Leu Val Phe Pro Leu Glu Lys

625	630	635	640
Ala Gly Lys Phe Asp Ser Lys Ile Thr Asn Leu Lys Val Tyr Lys Lys			
645	650		655

<210> 7124  
<211> 196  
<212> PRT  
<213> B.fragilis

<400> 7124

Arg Tyr Ser Met Lys Ile Lys Ile Tyr Lys Ser Leu Ala Met Cys Thr			
1	5	10	15
Leu Leu Leu Gly Leu Ala Ala Cys Asn Asp Phe Glu Glu Met Asn Thr			
20	25	30	
Asp Pro Tyr Ala Pro Val Tyr Asp Pro Glu Ile Ile Gly Ala Thr Pro			
35	40	45	
Asp Gly Ile Asp Ile Asp Tyr Glu Leu Thr Pro Ser Ala Leu Lys Ser			
50	55	60	
Leu Gln Gly Thr Glu Ser Ala Ile Gly Ser Val Phe Ala Asn Leu Thr			
65	70	75	80
Tyr Glu Gly Leu Tyr Asn Asp Tyr Gln Val Thr Thr Asn Leu Thr His			
85	90	95	
Asp Ile Tyr Ala Ala Tyr Phe Ala Asn Asn Val Ser Gly Phe Val Thr			
100	105	110	
Asn Ser Pro Thr Tyr Gly Tyr Asn Asp Gly Trp Ser Lys Arg Arg Trp			
115	120	125	
Glu His Phe Tyr Asp Asn Arg Thr Val Glu Glu Tyr Ser Gln Leu Ile			
130	135	140	
Lys Thr Phe Trp Phe Cys Gly Lys Glu Arg Tyr His Asn Ala Phe Tyr			
145	150	155	160
Met Thr Arg Ile Tyr Tyr Ala Phe Leu Ile Ser Met Gln Thr Asp Thr			
165	170	175	
Tyr Gly Ala His Ser Ile Gly Ile Leu Arg Lys Asn Val Gln Cys Pro			
180	185	190	
Gln Thr Arg Lys			
195			

<210> 7125  
<211> 499  
<212> PRT  
<213> B.fragilis

<400> 7125

Ala Asn Leu Ile Tyr Ser Asp Ile Gln Asn Cys Lys Ile Asp Glu His			
1	5	10	15
Met Asn Leu Arg Asn Phe Phe Leu Ala Ala Gly Ile Ala Ala Val Ala			
20	25	30	
Val Pro Val Trp Gly Gln Lys Ala Pro Glu Pro Tyr Gly Leu Thr Pro			
35	40	45	
Ser Ala Arg Gln Val Glu Trp Tyr Asn Arg Glu Met Ile Ala Phe Phe			
50	55	60	
His Phe Gly Ile Asn Thr Phe Glu Glu Tyr Val Asn Glu Gly Asp Gly			
65	70	75	80
Arg Ala Pro Ala Ala Ile Phe Asn Pro Thr Ala Leu Asp Cys Gly Gln			
85	90	95	
Trp Met Arg Thr Leu Gln Ser Ala Gly Ile Pro Ser Ala Ile Ile Thr			
100	105	110	
Ala Lys His Ala Asp Gly Phe Cys Leu Trp Pro Ser Lys Tyr Thr Asp			
115	120	125	

Tyr Gly Val Lys Asn Ser Ala Trp Lys Asn Gly Lys Gly Asp Val Val  
 130 135 140  
 Arg Glu Phe Val Asp Ala Cys Glu Glu Tyr Gly Ile Lys Ala Gly Ile  
 145 150 155 160  
 Tyr Leu Gly Pro His Asp Arg His Glu His Leu Ser Pro Leu Tyr Thr  
 165 170 175  
 Thr Glu Lys Tyr Lys Gln Tyr Tyr Gly His Gln Leu Glu Glu Leu Met  
 180 185 190  
 Gly Asp Tyr Gly Lys Val Trp Glu Thr Trp Trp Asp Gly Ala Gly Ala  
 195 200 205  
 Asp Glu Leu Thr Thr Pro Val Tyr Thr His Trp Tyr Lys Ile Val Arg  
 210 215 220  
 Glu Lys Gln Pro Asp Cys Val Ile Phe Gly Thr Lys Asn Ser Tyr Pro  
 225 230 235 240  
 Phe Ala Asp Val Arg Trp Met Gly Asn Glu Ser Gly Lys Ala Gly Asp  
 245 250 255  
 Pro Cys Trp Ser Thr Thr Asp Ser Val Cys Val Arg Asp Glu Trp Lys  
 260 265 270  
 Asn Tyr Glu Gly Leu Asn Glu Gly Val Lys Gly Gly Asp Ala Tyr Ile  
 275 280 285  
 Pro Ala Glu Thr Asp Val Ser Ile Arg Pro Ser Trp Phe Tyr His Ala  
 290 295 300  
 Glu Glu Asp Ser Arg Val Lys Ser Val Lys Glu Leu Trp Asp Ile Tyr  
 305 310 315 320  
 Cys Thr Ser Val Gly His Asn Ser Val Leu Leu Leu Asn Phe Pro Pro  
 325 330 335  
 Asp Arg Arg Gly Leu Ile His Pro Thr Asp Ser Leu His Ala Ala Leu  
 340 345 350  
 Leu Lys Gln Gly Leu Asp Glu Thr Phe Gly Asn Asn Leu Leu Ala Lys  
 355 360 365  
 Ala Lys Val Lys Ala Thr Asn Gly Arg Gly Gly Lys Phe Arg Pro Glu  
 370 375 380  
 Phe Leu Thr Asp Asn Asn Lys Glu Thr Tyr Phe Ala Gly Arg Asp Gly  
 385 390 395 400  
 Ala Lys Thr Ser Asp Ile Val Phe Thr Leu Ser Arg Gln Thr Glu Phe  
 405 410 415  
 Asp Cys Leu Met Ile Gln Glu Val Ile Glu Leu Gly His Arg Thr Thr  
 420 425 430  
 Lys Trp Ser Val Glu Tyr Ser Asn Asp Gly Arg Asn Trp Thr Pro Ile  
 435 440 445  
 Pro Glu Ala Thr Asp Lys Gln Thr Val Gly Tyr Lys Trp Ile Val Arg  
 450 455 460  
 Phe Ala Pro Val Lys Ala Lys Gln Val Arg Leu Arg Ile Leu Asp Gly  
 465 470 475 480  
 Phe Ala Cys Pro Ala Ile His Thr Phe Gly Val Tyr Lys Gln Ser Ala  
 485 490 495  
 Leu Phe Gln

&lt;210&gt; 7126

&lt;211&gt; 402

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7126

Ser Lys Arg Ile Ala Met Thr Asp Arg Gln Asn Ser Arg Arg Phe Leu  
 1 5 10 15  
 Leu Leu Phe Leu Gly Val Leu Ser Ala Phe Gly Pro Phe Ile Met Asp  
 20 25 30

<210> 7127

<211> 281

<212> PRT

<213> B.*fragilis*

<400> 7127

Val	Leu	Ser	Ile	Leu	Leu	Thr	Thr	Ala	Gln	Val	Thr	Gly	Asn	Asn	Pro
1				5					10						15
Asn	Met	Pro	Asp	Arg	Ala	Ile	Ala	Glu	Thr	Ile	Asp	Phe	Gly	Lys	Ser
			20					25						30	

Glu Gln Tyr Thr Leu Ser Ile Arg Leu Ser Thr Asp Gly Phe Ser Phe  
   35                  40                  45  
 Ser Ile Tyr Asn Pro Ile His Asp Ser Ser Leu Ser Phe Phe Glu Lys  
   50                  55                  60  
 Glu Val Glu Ala Ser Leu Ser Leu Thr Ala Asn Leu Lys Gln Ala Phe  
   65                  70                  75                  80  
 Arg Glu Leu Asp Phe Leu Asn His Thr Tyr Lys Arg Val Asn Ile Leu  
   85                  90                  95  
 Met Ala Asp Lys Arg Phe Thr Leu Ile Pro Leu Glu Leu Phe Glu Asp  
  100                  105                  110  
 Asp Gln Ser Glu Met Ile Phe Tyr His Asn His Thr Pro Lys Glu Asn  
  115                  120                  125  
 Glu Thr Val Lys Tyr Asn Ile Leu Lys Lys Asn Asn Ala Val Val Ile  
  130                  135                  140  
 Phe Gly Met Asp Lys Ser Thr Cys Gln Phe Leu Ser Asp Gln Tyr Pro  
  145                  150                  155                  160  
 Glu Ala Arg Phe Tyr Ser Gln Ala Ala Pro Leu Ala Glu Tyr Phe Ser  
  165                  170                  175  
 Ala Lys Ser Arg Leu Gly Asn Ser Lys Lys Ile Tyr Ala Ser Ile Arg  
  180                  185                  190  
 Arg Asp Ala Ile Asp Phe Phe Cys Tyr Glu Arg Gly His Leu Leu Leu  
  195                  200                  205  
 Ala Asn Ser Phe Glu Cys Arg Lys Thr Gly Asp Arg Ile Tyr Tyr Leu  
  210                  215                  220  
 Leu Tyr Leu Trp Lys Gln Leu Asn Phe Asp Gln Glu Arg Asp Glu Leu  
  225                  230                  235                  240  
 His Leu Thr Gly Ala Phe Asn Asp Lys Glu Lys Leu Met Gln Glu Leu  
  245                  250                  255  
 Arg Lys Tyr Ile Gln Gln Val Phe Ile Met Asn Pro Ala Ser Asn Ile  
  260                  265                  270  
 Asp Met Gln Ala Leu Leu Thr Cys Glu  
  275                  280

&lt;210&gt; 7128

&lt;211&gt; 385

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7128

Asn Thr Trp Ile Arg Lys Met Tyr Thr Thr Leu Ser Phe Lys Met Leu  
 1                  5                  10                  15  
 Arg Ser Gly Pro Ser Leu His Trp His Asn Thr Pro Ser Thr Ala Gln  
  20                  25                  30  
 Tyr Ser Leu Gly Glu Asn Asp Lys Cys Phe Gly Gly Asp Lys Asp Lys  
  35                  40                  45  
 Trp Leu Arg Phe Ala Asn Thr Leu Arg Leu Arg Leu Ala Leu Arg Val  
  50                  55                  60  
 Ser Asn Val Asp Pro Gln Leu Ala Lys Glu Gln Gly Glu Lys Ala Met  
  65                  70                  75                  80  
 Ala Asp Pro Ala Gly Leu Met Gln Ser Asp Asp Asp Asn Met Lys Gln  
  85                  90                  95  
 Thr Pro Lys Tyr Ser Tyr Ile Thr Gly Gly Asn Glu Asn Ile Tyr Thr  
  100                  105                  110  
 Leu Leu Tyr Asn Trp Ser Ala Asn Val Val Leu Ser Lys Glu Met Glu  
  115                  120                  125  
 Arg Ala Tyr Lys Glu Gln Ser Thr Ile Leu Asp Pro Arg Cys Glu Ile  
  130                  135                  140  
 Leu Trp Trp Arg Pro Thr Ala Leu Glu Asp Leu Asn Gln Thr Glu Pro  
  145                  150                  155                  160

<210> 7129

<210> 712  
<211> 303

<211> 303

<212> PR1  
<213> *B. fragilis*

<400> 7129

Leu Phe Tyr Phe Cys Ile Asn Lys Glu Arg Ile Leu Met Pro Asn Arg  
1 5 10 15

Asp Ser Glu Lys Leu Ile Thr Asp Gly Tyr Thr Thr Thr Leu Leu Gly  
20 25 30

Asp Glu Leu Met Val Cys Glu Asn Met Lys His Ile Arg Val Thr Ser  
35 40 45

Val	Pro	Ser	Tyr	Thr	Glu	Val	Gly	Met	Ile	Ile	Leu	Cys	Leu	Arg	Gly
50					55						60				

Thr Ala Lys Ile Cys Ile Phe Asp Asn Ile His Ile Leu Ala Lys Asn  
65 70 75 80

Glu Leu Ala Val Ile Leu Pro Gly Gln Leu Val Ser Ile Thr Glu Leu  
85 90 95

Ser Pro Asp Phe Leu Cys Asn Ile Val Val Leu Ser Arg Ala Leu Phe  
100 105 110

Asp Asp Thr Leu Ser Gly Phe Ser Arg Phe Ser Pro Leu Phe Phe Val  
115 120 125

Tyr Met Arg Ser His Tyr Trp Tyr Glu Leu Thr Gly Glu Glu Ile Glu  
 130 135 140

Arg Phe Lys Leu Phe Tyr Gly Ser Leu Ser Gln Arg Ala Lys Asp Pro  
 145                   150                   155                   160  
 Thre His Phe Phe Asp Glu Ser Val Ile Ile Ile Ile Ile Ile Ile

Thr His Phe Phe Arg Arg Glu Ser Val Leu Leu Leu Leu Arg Ile Phe  
165 170 175

Tyr Leu Asp Ile Tyr Asn Glu Tyr Tyr Ser Lys Ser His Leu Met Lys  
 180 185 190  
 Gly Gly Ser Asp Met Gly Lys Ser Lys Leu Ala His Asp Phe Phe Cys  
 195 200 205  
 Leu Ile Met Gln His Tyr Arg Glu His Lys Asp Val Ala Phe Tyr Ala  
 210 215 220  
 Asp Lys Leu Cys Ile Thr Ser Lys Tyr Leu Ser Met Val Ile Lys Glu  
 225 230 235 240  
 Ala Ser Gly Lys Thr Ala Lys Asp Trp Ile Val Glu Tyr Ala Ile Leu  
 245 250 255  
 Glu Ile Lys Ala Met Leu Lys Asn Ser Thr Met Asn Ile Gln Glu Ile  
 260 265 270  
 Ser Ile Lys Thr Asn Phe Ala Asn Gln Ser Ser Leu Gly Arg Phe Phe  
 275 280 285  
 Arg Lys His Thr Gly Met Thr Leu Thr Glu Tyr Arg Met His Arg  
 290 295 300

&lt;210&gt; 7130

&lt;211&gt; 989

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7130

Thr Phe Cys Phe Glu Gly Cys Gln Thr Asn Asp Cys Tyr Tyr Ser Thr  
 1 5 10 15  
 Tyr Arg Gln Met Lys Lys Leu Leu Ile Trp Thr Val Leu Leu Leu Thr  
 20 25 30  
 Ala Thr Leu Ser Thr Tyr Ala Gln Asn Lys Ile Val Thr Val Ser Gly  
 35 40 45  
 Arg Val Ile Glu Ala Gly Thr Lys Glu Pro Val Glu Leu Ala Ala Val  
 50 55 60  
 Gln Leu Leu Ser Leu Pro Asp Ser Ala Gln Val Ala Gly Met Thr Thr  
 65 70 75 80  
 Ser Thr Gln Gly Tyr Phe Ser Leu Ser Lys Gln Lys Pro Gly Lys Tyr  
 85 90 95  
 Leu Leu Lys Val Ser Phe Ile Gly Tyr Val Thr Lys Ile Ile Pro Val  
 100 105 110  
 Gln Leu Thr Ala Asn Val Pro Ala Lys Lys Met Gly Asn Ile Glu Leu  
 115 120 125  
 Ala Thr Asp Ala Val Met Leu Gln Glu Ala Val Val Ala Glu Ala  
 130 135 140  
 Pro Gln Val Thr Val Val Glu Asp Thr Leu Met Tyr Asn Ser Ser Ala  
 145 150 155 160  
 Tyr Arg Thr Pro Glu Gly Ala Met Leu Glu Glu Leu Val Lys Lys Leu  
 165 170 175  
 Pro Gly Ala Glu Ile Asp Asp Asp Gly Asn Val Lys Ile Asn Gly Lys  
 180 185 190  
 Asp Leu Lys Lys Ile Met Val Asp Gly Lys Glu Phe Phe Gly Gly Asp  
 195 200 205  
 Val Lys Thr Gly Leu Lys Asn Leu Pro Val Asp Met Val Asp Lys Leu  
 210 215 220  
 Lys Thr Tyr Asp Lys Lys Ser Asp Leu Ala Arg Val Thr Gly Ile Asp  
 225 230 235 240  
 Asp Gly Glu Glu Glu Thr Val Leu Asp Leu Thr Val Lys Lys Gly Met  
 245 250 255  
 Asn Gln Gly Trp Phe Gly Asn Ala Asp Leu Gly Ala Gly Thr Lys Asp  
 260 265 270  
 Arg Tyr Thr Gly Arg Met Met Leu Asn Arg Phe Val Asp Lys Thr Gln  
 275 280 285

Phe Ser Ile Ile Gly Ser Ala Asn Asn Val Asn Asp Gln Gly Phe Ser  
 290 295 300  
 Gly Gly Gly Gly Pro Arg Trp Arg Ser Asn Asn Gly Leu Asn Ala  
 305 310 315 320  
 Thr Lys Met Leu Gly Ala Asn Phe Ala Thr Gln Thr Asn Lys Leu Glu  
 325 330 335  
 Leu Gly Gly Ser Val Arg Tyr Asn Phe Gln Asp Ala Asp Ile Ser Ser  
 340 345 350  
 Ile Asn Ser Ser Glu Arg Phe Leu Gln Asn Gly Asn Ser Tyr Ser Asn  
 355 360 365  
 Ser Asn Asn Lys Asn Arg Asn Lys Gly Thr Asn Leu Asn Ala Asp Phe  
 370 375 380  
 Arg Met Glu Trp Lys Pro Asp Thr Leu Thr Asn Ile Ile Phe Arg Pro  
 385 390 395 400  
 Asn Phe Ser Tyr Gly Arg Thr Asn Asn Ala Ser Arg Ser Glu Ser Gly  
 405 410 415  
 Thr Phe Asn Glu Asp Pro Phe Asn Leu Ile Val Asn Pro Asn Asp Tyr  
 420 425 430  
 Leu Asn Phe Asp Asn Leu Ser Asp Asp Pro Leu Lys Asp Ile Arg Val  
 435 440 445  
 Asn Ala Thr Asn Ser Ala Ser Leu Ser Lys Gly Lys Ser Leu Ser Gly  
 450 455 460  
 Asn Ala Thr Leu Gln Val Asn Arg Lys Leu Asn Asn Arg Gly Arg Asn  
 465 470 475 480  
 Leu Thr Phe Arg Gly Val Phe Gly Tyr Gly Asp Asn Asp Ser Asp Gln  
 485 490 495  
 Tyr Thr Gln Ser Glu Thr Arg Tyr Tyr Gln Leu Leu Asn His Leu Gly  
 500 505 510  
 Gly Asp Ser Ile Leu Tyr Arg Asn Gln Tyr Ile Thr Thr Pro Thr Arg  
 515 520 525  
 Asn Tyr Asn Tyr Thr Ala Gln Val Thr Tyr Ser Glu Pro Ile Ala Lys  
 530 535 540  
 Ala Thr Phe Leu Gln Phe Ser Tyr Gln Phe Gln Tyr Lys Tyr Ser Lys  
 545 550 555 560  
 Ser Asp Lys Thr Thr Phe Asp Leu Leu Asp Tyr Pro Asp Trp Ala Ile  
 565 570 575  
 Gly Gly Ala Leu Pro Ser Gly Tyr Glu Ser His Ala Val Asp Ser Leu  
 580 585 590  
 Ser Lys Asn Ala Glu Tyr Arg Tyr Tyr Asn His Asp Ala Ser Val Gly  
 595 600 605  
 Leu Arg Phe Ile Arg Pro Lys Tyr Gln Leu Asn Val Gly Met Ser Phe  
 610 615 620  
 Gln Pro Gln Asn Ser Thr Leu Ser Tyr Lys Lys Gly Asp Tyr Met Ile  
 625 630 635 640  
 Asp Thr Thr Arg Thr Val Phe Asn Phe Ala Pro Asn Met Asp Leu Arg  
 645 650 655  
 Phe Arg Phe Ser Lys Val Ser Gln Leu Arg Phe Thr Tyr Arg Gly Arg  
 660 665 670  
 Ser Asn Gln Pro Thr Met Glu Asn Leu Leu Pro Ile Thr Asp Asn Ser  
 675 680 685  
 Asn Pro Leu Asn Ile Arg Met Gly Asn Pro Gly Leu Lys Pro Ser Phe  
 690 695 700  
 Ala His Thr Met Arg Leu Phe Tyr Asn Thr Tyr Asn Ala Glu Lys Gln  
 705 710 715 720  
 Arg Gly Ile Met Thr His Phe Ser Phe Thr Ala Thr Gln Asn Ser Ile  
 725 730 735  
 Ser Asn Ser Thr Arg Tyr Asn Glu Glu Thr Gly Gly Leu Ile Thr Arg  
 740 745 750  
 Pro Glu Asn Ile Asn Gly Asn Trp Asn Ala Phe Gly Met Phe Gly Phe

755	760	765
Asn Thr Ala Leu Lys Asn Lys	Lys Tyr Thr Ile Asn Thr Phe Thr Asn	
770	775	780
Val Asn Tyr Gln Asn Asn Val	Ala Phe Leu Tyr Asn Gln Asp Thr Lys	
785	790	795
Asn Asn Asp Arg Asn Thr Ser	Thr Gly Leu Thr Leu Gly Glu Arg Val	
805	810	815
Thr Gly Ser Tyr Arg Asn Asp Trp	Phe Glu Phe Ser Leu Asn Gly Ser	
820	825	830
Ile Asn Tyr Thr Ala Glu Arg Asn	Lys Leu Arg Pro Glu Asn Asn Gln	
835	840	845
Glu Pro Tyr Thr Tyr Ser	Tyr Gly Ala Ser Thr Asn Ile Thr Met Pro	
850	855	860
Trp Lys Met Thr Leu Ala	Thr Asn Ile Ala Asn Gln Ser Arg Arg Gly	
865	870	875
Tyr Arg Asp Ser Ser Met Asn Arg Asp	Glu Leu Ile Trp Asn Ala Gln	
885	890	895
Leu Ala Gln Ser	Leu Leu Lys Gly Ala Ala Thr Val Ser Phe Glu Val	
900	905	910
Tyr Asp Ile Leu Arg Gln Gln	Ser Asn Ile Ser Arg Ser Leu Ser Ala	
915	920	925
Asp Met Arg Ser Val Ser	Glu Tyr Asn Gly Ile Asn Ser Tyr Cys Met	
930	935	940
Val His Phe Ile Tyr Arg	Leu Asn Ile Phe Gly Ser Lys Ala Ala Arg	
945	950	955
Glu Lys Met Met Asn Ser	Gly Arg Arg Gly Phe Gly Gly Pro Gly Arg	
965	970	975
Gly Pro Gly Gly	Phe Gly Gly His Pro Arg Phe	
980	985	

&lt;210&gt; 7131

&lt;211&gt; 422

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7131

Arg Leu Val Val	Tyr Thr Ala Lys Lys Glu His Ser Phe Phe Tyr Leu		
1	5	10	15
Ser Ala Asn Leu Ser Phe Val Val	Ser Asp Phe Val Arg Ser Leu Asp		
20	25	30	
Lys Thr Leu Pro Asn Trp	Leu Thr Phe Ala Lys Val Arg Leu Ser Ala		
35	40	45	
Ala Gln Val Gly Lys Asp	Thr Asp Pro Tyr Gln Leu Tyr Asn Thr Tyr		
50	55	60	
Gly Phe Lys Phe Glu Lys	Gly Glu Leu Ile Pro Ser Lys Ser Asn Val		
65	70	75	80
Lys Met Asn Asp Gln Leu Lys Pro Glu	Ile Ser Ser Ser Tyr Glu Ala		
85	90	95	
Gly Leu Asp Met Lys Phe Leu Asn Asn Arg	Leu Gly Phe Asp Phe Thr		
100	105	110	
Tyr Tyr Tyr Ser Arg Thr Lys Asn Gln	Ile Met Lys Val Pro Ala Ala		
115	120	125	
Ala Pro Trp Ser Gly Gly	Lys Trp Val Asn Ala Gly Leu Ile Thr Asn		
130	135	140	
Lys Gly Phe Glu Met Met	Ile Tyr Ser Thr Pro Val Gln Leu Lys Asp		
145	150	155	160
Phe Ser Phe Asp Leu Asn Val Asn Leu Ala	Lys Asn Val Ser Asn Val		
165	170	175	
Glu Lys Leu Ala Asp Gly Val Asp Tyr	Ile Tyr Phe Asn Gly Asp Ser		

180	185	190
Asn Phe Pro Ile Asn Val Gly Ala Arg Pro Gly His Lys Leu Gly Glu		
195	200	205
Ile Tyr Ala Lys Thr Leu Tyr Lys Arg Asp Glu Gln Gly Asn Ile Ile		
210	215	220
Ile Asn Lys Glu Asn Gly Leu Pro Met Thr Thr Asp Ala Asp Glu		
225	230	235
Arg Leu Ala Lys Pro Ile Gly Asn Ile Gln Pro Asn Leu Leu Met Ser		
245	250	255
Val Ser Pro Ser Phe Thr Tyr Lys Gly Phe Thr Leu Ser Ala Met Phe		
260	265	270
Asp Met Lys Phe Gly Gly Asp Ile Ile Ser Ile Ser Glu Met Asn Ala		
275	280	285
Thr Gly Ser Gly Met Ala Lys Arg Thr Met Asn Arg Gly Glu Ser Asp		
290	295	300
Asn Phe Met Met Ile Phe Pro Gly Val Tyr Glu Asp Gly Thr Pro Asn		
305	310	315
Thr Gln Lys Ile Ser Ala Ser Asn Tyr Tyr Gly Ala Gln Asn Ala Glu		
325	330	335
Asp Phe Ile Tyr Asp Ala Ser Phe Ile Lys Leu Lys Glu Leu Ala Ile		
340	345	350
Gly Tyr Thr Phe Pro Lys Ser Met Leu Lys Lys Thr Pro Ile Asn Ser		
355	360	365
Leu Asn Val Ser Phe Val Ala Arg Asn Leu Ala Tyr Leu Leu Lys His		
370	375	380
Thr Pro Gly Thr Ser Pro Glu Gly Gly Tyr Asp Thr Thr Met Phe Ser		
385	390	395
Gln Ala Ile Asp Phe Met Ala Val Pro Tyr Thr Arg Thr Phe Gly Phe		
405	410	415
Ser Val Asn Leu Gly Phe		
420		

&lt;210&gt; 7132

&lt;211&gt; 79

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7132

Ala Val Cys Leu Ala Leu Leu Ser Phe Ile Phe Lys Val Glu Pro Leu		
1	5	10
Ala Gly Ile Phe Arg Ser Gly Ala Gln Leu Leu Phe Ile Tyr Leu Lys		
20	25	30
Arg Ile Leu Ser Gly Ser Asp Leu Tyr Met Ser Glu Tyr Lys Ser Ser		
35	40	45
Thr Trp Asp Tyr Tyr Ile Trp Gly Val Ser Asp Phe Met Glu Val Ala		
50	55	60
Ile Leu Lys Cys Ser Ser Tyr Asp Pro Phe Ala Ala Arg Tyr Glu		
65	70	75

&lt;210&gt; 7133

&lt;211&gt; 503

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7133

Ile Gly Thr Val Val Val Arg Ile Arg Tyr Phe Pro Tyr Ile Cys Ser		
1	5	10
Leu Tyr Asn Pro Arg Arg Ala Asn Met Ile Asp Trp Asn Tyr Ile Ala		
20	25	30

Ser Val Ile Ala Thr Val Ala Phe Asp Ile Ile Tyr Phe Gly Ala Ile  
     35                40                45  
 Ile Gly Thr Ile Val Ile Val Ile Leu Asp Asn Arg Asn Pro Val Lys  
     50                55                60  
 Thr Met Ala Trp Ile Leu Ile Leu Met Phe Leu Pro Val Val Gly Leu  
     65                70                75                80  
 Val Phe Tyr Phe Phe Gly Arg Ser Gln Arg Arg Glu Lys Ile Ile  
     85                90                95  
 Gly Lys Lys Ser Tyr Asp Arg Leu Leu Lys Lys Pro Met Ala Glu Tyr  
    100                105                110  
 Leu Ala Gln Asn Cys Cys Glu Thr Pro Lys Glu Tyr Glu Arg Leu Ile  
    115                120                125  
 Gln Leu Phe Gln Asn Thr Asn Gln Ala Phe Pro Phe Glu Gly Asn Arg  
    130                135                140  
 Val Asp Ile Tyr Thr Gly Gly Tyr Ser Lys Leu Gln Ala Leu Leu Arg  
    145                150                155                160  
 Glu Leu Gln Lys Ala Arg Leu His Ile His Met Glu Tyr Tyr Ile Phe  
    165                170                175  
 Glu Asp Asp Pro Val Gly Arg Leu Val Arg Asp Val Leu Ile Glu Lys  
    180                185                190  
 Ala Arg Glu Gly Val Glu Val Arg Val Ile Tyr Asp Asp Val Gly Cys  
    195                200                205  
 Trp His Val Pro His Arg Phe Phe Glu Glu Met Arg Asp Ala Gly Ile  
    210                215                220  
 Glu Val Arg Ser Phe Leu Lys Val Arg Phe Pro Leu Phe Thr Ser Lys  
    225                230                235                240  
 Val Asn Tyr Arg Asn His Arg Lys Ile Val Val Ile Asp Gly Arg Ile  
    245                250                255  
 Gly Phe Ile Gly Gly Met Asn Leu Ala Glu Arg Tyr Met Arg Gly Phe  
    260                265                270  
 Ser Trp Gly Ile Trp Arg Asp Thr His Ile Leu Leu Glu Gly Lys Ala  
    275                280                285  
 Val His Gly Leu Gln Thr Ala Phe Leu Leu Asp Trp Tyr Phe Val Asp  
    290                295                300  
 Arg Thr Leu Ile Thr Ala Ser Arg Tyr Phe Pro Lys Ile Glu Ala Tyr  
    305                310                315                320  
 Gly Asn Ser Leu Val Gln Ile Val Thr Ser Glu Pro Ile Gly Pro Trp  
    325                330                335  
 Lys Glu Ile Met Gln Gly Leu Thr Val Ala Ile Ser Gly Ala Lys Lys  
    340                345                350  
 Tyr Phe Tyr Met Gln Thr Pro Tyr Phe Leu Pro Thr Glu Gln Ile Leu  
    355                360                365  
 Gly Ala Met Gln Thr Ala Ala Leu Ala Gly Val Asp Ile Arg Leu Met  
    370                375                380  
 Leu Pro Glu His Ala Asp Asn Arg Val Thr His Leu Gly Ser Cys Ser  
    385                390                395                400  
 Tyr Leu Ala Asp Val Leu Arg Ala Gly Val Lys Val Tyr Phe Tyr Lys  
    405                410                415  
 Lys Gly Phe Leu His Ser Lys Leu Met Val Ser Asp Asp Met Leu Ser  
    420                425                430  
 Thr Val Gly Ser Thr Asn Leu Asp Phe Arg Ser Phe Glu His Asn Phe  
    435                440                445  
 Glu Val Asn Ala Phe Met Tyr Asp Met Glu Thr Ala Leu Gln Met Arg  
    450                455                460  
 Glu Ile Phe Leu Gln Asp Gln Arg Glu Ser Thr Gln Ile Phe Leu Lys  
    465                470                475                480  
 Ser Trp Glu Lys Arg Ser Ser Arg Gln Lys Ala Met Glu Ser Val Val  
    485                490                495  
 Arg Leu Leu Ala Pro Leu Leu

&lt;210&gt; 7134

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7134

Leu	Phe	Leu	Leu	Tyr	Asn	Glu	Lys	Glu	Lys	Met	Asn	Asn	Leu	Ser	Glu
1				5				10						15	
Asp	Ile	Leu	Met	Arg	Tyr	Leu	Thr	Gly	Glu	Cys	Ser	Asp	Glu	Asp	Phe
				20				25						30	
Ala	Arg	Val	Asn	Ala	Trp	Ile	Lys	Glu	Ser	Asp	Asp	Asn	Ala	Arg	Arg
				35				40						45	
Leu	Phe	Arg	Met	Glu	Glu	Val	Tyr	His	Leu	Gly	Arg	His	Asp	Ser	Phe
				50				55						60	
Pro	Asp	Gln	Lys	Lys	Val	Ala	Arg	Ala	Glu	Ala	Arg	Leu	Tyr	Lys	Lys
				65				70						80	
Leu	Ala	Gln	Glu	Asp	Ala	His	Ser	Arg	Lys	Val	Ile	Arg	Met	His	Gln
				85				90						95	
Trp	Met	Arg	Tyr	Ala	Ala	Ile	Ile	Val	Leu	Ala	Leu	Met	Ile	Gly	Thr
				100				105						110	
Gly	Gly	Gly	Tyr	Leu	Tyr	Tyr	Gln	Ala	Asp	Pro	Thr	Arg	Asn	Met	Ile
				115				120						125	
Thr	Ala	Ser	Ser	Thr	Asp	Gly	Lys	Val	Lys	Glu	Val	Met	Leu	Pro	Asp
				130				135						140	
Gly	Thr	Lys	Val	Trp	Leu	Asn	Gln	Ser	Ala	Thr	Leu	Arg	Tyr	Pro	Lys
				145				150						160	
Glu	Phe	Ser	Glu	Ser	Glu	Arg	Asp	Val	Tyr	Leu	Asp	Gly	Glu	Ala	Tyr
				165				170						175	
Phe	Glu	Val	Thr	Lys	Asn	Arg	Arg	Cys	Pro	Phe	Val	Val	Glu	Ser	Glu
				180				185						190	
Ala	Met	Arg	Ile	Lys	Val	Leu	Gly	Thr	Thr	Phe	Asn	Phe	Lys	Cys	Asp
				195				200						205	
Lys	Ser	His	Lys	Leu	Ala	Glu	Ala	Thr	Leu	Ile	Glu	Gly	Glu	Ile	Glu
				210				215						220	
Val	Arg	Gly	Asn	His	Asp	Glu	Gly	Met	Ile	Ile	Leu	Ser	Pro	Gly	Gln
				225				230						240	
Lys	Ala	Glu	Leu	Asn	Lys	Thr	Thr	Arg	Arg	Leu	Val	Val	Lys	Gln	Val
				245				250						255	
Asp	Ala	Lys	Leu	Asp	Ala	Val	Trp	His	Asn	Asp	Leu	Ile	Pro	Phe	Glu
				260				265						270	
Gln	Ala	Asp	Ile	Phe	Val	Ile	Thr	Arg	Thr	Leu	Glu	Arg	Phe	Tyr	Asp
				275				280						285	
Val	Lys	Ile	Ile	Leu	Ser	Pro	Asp	Ile	Lys	Ser	Asp	Lys	Thr	Tyr	Ser
				290				295						300	
Gly	Val	Leu	Lys	Lys	Lys	Asp	Asn	Ile	Glu	Ser	Val	Leu	Gln	Ser	Leu
				305				310						320	
Asp	Asn	Ser	Ile	Pro	Ile	Asn	Tyr	Lys	Ile	Val	Gly	Asp	Asn	Ile	Phe
				325				330						335	
Ile	Ser	Ser	Arg	Asn	Lys										
				340											

&lt;210&gt; 7135

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7135

Val Arg Arg Phe Lys Gln Arg Gln Tyr Pro Leu Leu Glu Ala Gly Ile  
 1 5 10 15  
 Gly Arg Lys Ala Thr Gln Val Arg Gly Cys Phe Thr Ala Lys Leu Ala  
 20 25 30  
 Asn Ser Phe Gln Ser Phe His Arg Ser Ile Gln Ser Leu Tyr Leu Ala  
 35 40 45  
 Leu Ile Lys Leu Leu Cys Ile Asp Leu Asn Phe Tyr Ile Cys Ile Ala  
 50 55 60  
 Gln Thr Asp Lys Leu Trp Lys Thr Val Ser Ala Tyr  
 65 70 75

&lt;210&gt; 7136

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7136

Val Ile Arg Ser Asp Leu Arg Thr Leu Ser Ala Met Ser Thr Asp Glu  
 1 5 10 15  
 Glu Arg Ile Tyr Ser Ile Ala Leu Thr Gln Ile Pro Gly Val Gly His  
 20 25 30  
 Ile Gly Ala Lys Arg Leu Val Asp Gly Met Gly Ser Ala Thr Asp Val  
 35 40 45  
 Phe Arg Tyr Arg Thr Glu Leu Pro Asp Arg Leu Pro Gly Val Asn Arg  
 50 55 60  
 Ala Val Val Ala Ala Leu Asp Ser Pro Gln Ala Leu Lys Arg Ala Glu  
 65 70 75 80  
 Gln Glu Tyr Glu Phe Ala Arg Asn Asn Arg Ile Ser Cys Phe Thr Leu  
 85 90 95  
 Ala Asp Glu Asp Tyr Pro Ser Arg Leu Arg Glu Cys Asp Asp Ala Pro  
 100 105 110  
 Val Val Leu Phe Phe Lys Gly Lys Ala Asn Leu Asn Ala Leu His Ile  
 115 120 125  
 Ile Asn Met Val Gly Thr Arg Asn Ala Thr Asp Tyr Gly Lys His Ile  
 130 135 140  
 Cys Val Ser Phe Leu Gln Glu Leu Gln Met Leu Cys Pro Asp Val Leu  
 145 150 155 160  
 Val Val Ser Gly Leu Ala Tyr Gly Ile Asp Ile Asn Ala His Arg Ser  
 165 170 175  
 Ala Leu Ser Val Glu Leu Pro Thr Val Gly Val Leu Ala His Gly Leu  
 180 185 190  
 Asp Arg Ile Tyr Pro Ser Leu His Arg Lys Thr Ala Ile Asp Met Leu  
 195 200 205  
 Arg Gln Gly Gly Leu Leu Thr Glu Phe Leu Ser Gly Thr Asn Pro Asp  
 210 215 220  
 Lys His Asn Phe Ile Ser Arg Asn Arg Ile Val Ala Gly Ile Ser Asp  
 225 230 235 240  
 Ala Thr Ile Val Val Glu Ser Ala Ala Lys Gly Gly Ser Leu Ile Thr  
 245 250 255  
 Ala Asp Ile Ala Gly Ser Tyr His Arg Asp Cys Phe Ala Phe Pro Gly  
 260 265 270  
 Arg Val Thr Asp Glu Tyr Ser Lys Gly Cys Asn Gln Leu Ile Gln Asp  
 275 280 285  
 Asn Lys Ala Val Leu Leu Glu Ser Ala Ser Asp Phe Val Lys Thr Met  
 290 295 300  
 Gly Trp Asp Ser Asp Leu Lys Ser Val Lys Pro Glu Thr Val Gln Arg  
 305 310 315 320  
 Asn Leu Phe Pro Asp Leu Ser Ala Glu Glu Leu Arg Ile Val Asp Ile  
 325 330 335

Leu Gly Lys Leu Gly Asp Leu Gln Ile Asn Ala Leu Met Val Gln Ala  
           340               345               350  
 Asp Ile Pro Ile Asn Lys Ile Ser Ala Ile Leu Phe Glu Leu Glu Met  
           355               360               365  
 Lys Gly Val Ile Arg Val Leu Ala Gly Gly Val Tyr Gln Leu Leu Arg  
           370               375               380

<210> 7137

<211> 310

<212> PRT

<213> *B.fragilis*

<400> 7137

Gly Tyr Phe Phe Ile Pro Ser Phe Ile Val Phe Leu Asn Asn Ser Leu  
 1               5               10               15  
 Thr Phe Val Val Asn Ile Gln Thr Asn Thr Pro Val Tyr Met Pro Ser  
           20               25               30  
 Ser Val Cys Gly Asp Pro Met Met Cys Gln Asn Cys Lys Lys Ser Val  
           35               40               45  
 Pro Asn Ala Ile Phe His Val Tyr His Arg Arg Gly Phe His Tyr Pro  
           50               55               60  
 Ala Gln Lys Cys Glu Glu Asn Phe Ile Leu Phe Leu Ile Lys Gly Glu  
           65               70               75               80  
 Met Leu Val Asn Ser Arg Glu Tyr Ala Gly Thr Met Leu Lys Ala Gly  
           85               90               95  
 Glu Phe Met Leu Gln Pro Ile Ser Ser Lys Ile Glu Met Leu Ala Met  
           100               105               110  
 Thr Asp Val Glu Cys Ile Tyr Tyr Gln Phe Asn Gln Pro Glu Leu Phe  
           115               120               125  
 Cys Asp Ile Arg Tyr Asn Arg Ile Met Lys Glu Thr Asp Pro Pro Leu  
           130               135               140  
 Ile Pro Ser Pro Leu Pro Ile Ile Pro Glu Leu Gln His Phe Leu Glu  
           145               150               155               160  
 Ser Ala Arg Thr Tyr Leu Ser Glu Lys Lys Ile Cys Arg Asp Leu Leu  
           165               170               175  
 Ser Leu Lys Arg Lys Glu Leu Ala Phe Ile Leu Gly Tyr Phe Tyr Ser  
           180               185               190  
 Asp Tyr Asp Leu Ala Ser Leu Val His Pro Leu Ser Lys Tyr Thr Ser  
           195               200               205  
 Ser Phe Glu Cys Phe Val Tyr Gln Asn Tyr Lys Lys Val Lys Thr Val  
           210               215               220  
 Glu Glu Phe Ala Lys Leu Gly Gly Tyr Ser Gln Thr Thr Phe Arg Arg  
           225               230               235               240  
 Ile Phe Asp Asn Val Phe His Glu Pro Val Tyr Glu Trp Met Leu Ser  
           245               250               255  
 Arg Arg Lys Glu Glu Ile Ile Tyr Glu Leu Gln Asn Thr Glu Ala Thr  
           260               265               270  
 Ile Ser Glu Ile Cys Tyr Lys Phe Gly Phe Glu Ser Leu Pro His Phe  
           275               280               285  
 Ser Asn Phe Cys Lys Lys Ser Phe Gly Thr Ser Pro Arg Ser Ile Arg  
           290               295               300  
 Leu Lys Arg Ser Ser Glu  
           305               310

<210> 7138

<211> 85

<212> PRT

<213> *B.fragilis*

&lt;400&gt; 7138

Leu	His	Arg	Pro	His	Gln	Gly	Lys	Ser	Ile	Phe	Gly	Val	Ala	Tyr	Asn
1					5				10					15	
Ser	Lys	Glu	Met	Ile	Met	Asn	Glu	Arg	Tyr	Asn	Lys	Val	Ala	Leu	His
			20					25					30		
Gly	Ser	Pro	Leu	Val	Ser	Gly	Gly	Asp	Gly	Met	Gln	Pro	Ala	Gly	Tyr
			35					40				45			
Ser	Gly	Arg	Leu	Ser	Gly	Glu	Trp	Cys	Gly	Ser	Ala	Ala	Gly	Leu	Glu
			50					55				60			
Arg	Ser	Asp	Gly	Glu	Val	Ala	Gly	Arg	Ser	Ser	Asp	Tyr	Phe	Leu	Ser
			65					70			75		80		
Glu	Arg	Arg	Lys	Arg											
			85												

&lt;210&gt; 7139

<211> 322  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7139

Arg	Met	Ala	Leu	Asp	Leu	Phe	Lys	Arg	Val	Glu	Ser	Arg	Lys	Gly	Leu
1					5				10				15		
Phe	Ala	Val	Glu	Lys	Ile	Thr	Leu	Ile	Tyr	Asn	Leu	Leu	Thr	Ser	Ile
					20				25				30		
Leu	Ile	Leu	Phe	Met	Phe	Gln	Arg	Met	Asp	His	Pro	Leu	His	Met	Leu
					35				40			45			
Trp	Asp	Arg	Ala	Val	Ile	Ala	Ala	Met	Thr	Phe	Leu	Leu	Met	Tyr	Leu
					50				55			60			
Tyr	Arg	Leu	Ala	Pro	Cys	Lys	Phe	Ser	Ala	Phe	Val	Arg	Ile	Ala	Ile
					65				70			75		80	
Gln	Met	Ser	Leu	Leu	Ser	Tyr	Trp	Tyr	Pro	Asp	Thr	Phe	Glu	Phe	Asn
					85				90			95			
Arg	Val	Phe	Pro	Asn	Leu	Asp	His	Leu	Phe	Ala	Thr	Ala	Glu	Gln	Trp
					100				105			110			
Met	Phe	Gly	Gly	Gln	Pro	Ala	Val	Trp	Phe	Cys	His	Ala	Phe	Pro	Gln
					115				120			125			
Met	Trp	Val	Ser	Glu	Pro	Phe	Asn	Met	Gly	Tyr	Phe	Ala	Tyr	Tyr	Pro
					130				135			140			
Met	Ile	Leu	Val	Val	Thr	Leu	Phe	Tyr	Phe	Ile	Tyr	Arg	Phe	Asp	Leu
					145				150			155		160	
Phe	Glu	Lys	Met	Ser	Phe	Val	Leu	Val	Thr	Cys	Phe	Phe	Ile	Tyr	Tyr
					165				170			175			
Leu	Ile	Tyr	Ile	Phe	Val	Pro	Val	Ala	Gly	Pro	Gln	Phe	Tyr	Phe	Pro
					180				185			190			
Ala	Ile	Gly	Met	Asp	Ser	Val	Ser	Gln	Gly	Val	Phe	Pro	Ser	Ile	Gly
					195				200			205			
Asp	Tyr	Phe	Asn	His	Asn	Gln	Glu	Leu	Leu	Pro	Gly	Pro	Gly	Tyr	Gln
					210				215			220			
His	Gly	Phe	Phe	Tyr	Ser	Leu	Val	Glu	Gly	Ser	Gln	Gln	Val	Gly	Glu
					225				230			235		240	
Arg	Pro	Thr	Ala	Ala	Phe	Pro	Ser	Ser	His	Val	Gly	Val	Ser	Thr	Ile
					245				250			255			
Leu	Met	Ile	Met	Ala	Trp	Arg	Ala	Ser	Lys	Lys	Leu	Phe	Ala	Cys	Leu
					260				265			270			
Met	Pro	Phe	Tyr	Leu	Leu	Leu	Cys	Gly	Ala	Thr	Val	Tyr	Ile	Gln	Ala
					275				280			285			
His	Tyr	Leu	Ile	Asp	Ala	Ile	Ala	Gly	Phe	Val	Ser	Ala	Phe	Val	Leu
					290				295			300			
Tyr	Val	Leu	Val	Thr	Lys	Met	Phe	Lys	Lys	Trp	Phe	Ala	Val	Pro	Met

305  
Phe Lys

310

315

320

&lt;210&gt; 7140

&lt;211&gt; 72

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7140

Asn	Pro	Phe	Thr	Trp	Glu	Lys	Tyr	Pro	Thr	Asp	Pro	Lys	Asn	Glu	Lys
1				5				10				15			
Gly	Ile	Arg	Met	Lys	Leu	Cys	Pro	Leu	Ser	Gly	Lys	Lys	Ser	Gly	Phe
			20					25			30				
Tyr	Ser	Val	Phe	Lys	Ala	Val	Ile	Phe	Ser	Pro	Leu	Ala	Ala	Arg	Val
			35					40			45				
Arg	Arg	Ala	Arg	Gly	Glu	Ser	Pro	Lys	Glu	Ala	Leu	Gln	Lys	Cys	Ala
			50					55			60				
Lys	Cys	Asp	Lys	Glu	Ser	Asn	Pro								
			65					70							

&lt;210&gt; 7141

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7141

Ile	Ile	Met	Tyr	Arg	Phe	Glu	Leu	Leu	Tyr	Leu	Tyr	Cys	Thr	Asn	Arg
1				5					10			15			
Gln	Ile	Met	Glu	Asn	Arg	Ile	Cys	Ile	Leu	Thr	Leu	Phe	Val	Phe	Leu
				20					25			30			
Phe	Leu	Leu	Ser	Gly	Glu	Ser	Arg	Ala	Met	Val	Ala	Met	Pro	Asp	Ala
			35					40			45				
Trp	Thr	Arg	Met	Met	Ile	Gly	Val	Asn	Gln	Lys	Asp	Trp	Ser	Leu	Leu
			50					55			60				
Arg	Glu	Arg	Val	Gln	Ala	Asp	Leu	His	Val	Pro	Asp	Arg	Glu	Asp	Val
	65							70			75			80	
Leu	Met	Leu	Ile	Asp	Tyr	His	Arg	Asp	Asp	Arg	Met	Lys	Cys	Glu	Asn
			85					90			95				
Leu	Leu	Arg	Arg	Leu	Asn	Gly	Gly	Glu	Ala	Tyr	Arg	Tyr	Ile	Met	Asn
			100					105			110				
Lys	Ile	Leu	Pro	Leu	Leu	Tyr	Val	Tyr	Arg	Glu	His	Ser	Pro	Val	Pro
			115					120			125				
Ile	Pro	Asp	Asp	Lys	Ala	Ala	Gly	Val	Phe	Leu	Ser	Thr	Val	Asn	Val
	130							135			140				
Leu	Pro	Arg	Val	Lys	Phe	Val	His	Pro	Gln	Pro	Val	Val	Pro	Glu	Glu
	145							150			155			160	
Gly	Lys	Ile	Glu	Thr	Pro	Val	Ile	Ile	Glu	Gln	Arg	Thr	Val	Leu	Ala
			165					170			175				
Leu	Lys	Asn	Asn	Leu	Leu	Tyr	Asp	Leu	Ala	Leu	Ala	Pro	Asn	Ile	Glu
			180					185			190				
Val	Glu	Ile	Pro	Leu	Asn	Arg	Arg	Trp	Ser	Val	Asn	Ala	Glu	Tyr	Lys
	195							200			205				
Cys	Pro	Trp	Trp	Leu	Asn	Ser	Ser	Arg	Glu	Phe	Cys	Tyr	Gln	Leu	Leu
	210							215			220				
Ser	Gly	Gly	Val	Glu	Gly	Arg	Cys	Trp	Leu	Gly	Asn	Arg	Lys	Arg	Arg
	225							230			235			240	
Asn	Arg	Leu	Ala	Gly	His	Phe	Ile	Gly	Ala	Tyr	Ala	Glu	Gly	Gly	Ile
			245					250			255				

Tyr Asp Phe Gln Phe Lys Gly Asp Gly Tyr Gln Gly Arg Tyr Tyr Ala  
     260                 265                 270  
 Ala Ser Gly Leu Thr Tyr Gly Tyr Ala Lys Gln Ile Ala Arg His Leu  
     275                 280                 285  
 Ser Phe Glu Phe Ser Leu Gly Ile Gly Tyr Leu Thr Thr Glu Tyr Lys  
     290                 295                 300  
 Lys Tyr Thr Pro Tyr Glu Gly Asp Leu Val Trp Lys Ser Ser Ala Arg  
     305                 310                 315                 320  
 Tyr Asn Phe Ile Gly Pro Thr Lys Ala Lys Val Ser Leu Val Trp Leu  
     325                 330                 335  
 Ile Thr Ala Arg Arg  
     340

&lt;210&gt; 7142

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7142

Arg Leu Asn Gln Met Lys Ser Asn Lys Asn Glu Phe Leu Lys Leu Leu  
     1                 5                 10                 15  
 Thr Ala Tyr Gln Gly Ile Ile His Lys Val Asn Arg Ile Tyr Phe Arg  
     20                 25                 30  
 Ser Glu Ala Asp Arg Glu Asp Asn Phe Gln Glu Thr Val Tyr Gln Leu  
     35                 40                 45  
 Trp Arg Ser Phe Pro Ala Leu Gln Asn Lys Glu Lys Pro Ala Ser Trp  
     50                 55                 60  
 Ile Tyr Thr Val Ala Ile Asn Thr Ser Ile Ser Lys Val Arg Lys Asp  
     65                 70                 75                 80  
 Ser Arg Ile Glu Phe Arg Asp Ser Pro Pro Asp Gly Glu Pro Val Asp  
     85                 90                 95  
 Pro Trp Glu Gln Glu Gln Asp Glu Asn Trp Gln Arg Leu Val Asn  
     100                 105                 110  
 Ala Leu Gln Lys Leu Asn Glu Ile Asp Lys Ser Ile Met Leu Leu Tyr  
     115                 120                 125  
 Met Glu Asp Tyr Ser Tyr Glu Glu Ile Ala Gly Ile Val Gly Ile Ser  
     130                 135                 140  
 Ser Ser Ala Val Gly Val Lys Ile His Arg Leu Lys Gly Gln Leu Gln  
     145                 150                 155                 160  
 Lys Gln Phe Lys Lys  
     165

&lt;210&gt; 7143

&lt;211&gt; 833

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7143

Leu Met Asn His Lys Val Leu Tyr Arg Val Ala Leu Phe Cys Leu Phe  
     1                 5                 10                 15  
 Ser Met Leu Ser Ala Val Leu Met His Ala Gly Glu Gln Gln Gln Gln  
     20                 25                 30  
 Ser Lys Gly Ile Val Thr Gly Arg Ile Val Asp Gln Gln Lys Gln Pro  
     35                 40                 45  
 Tyr Tyr Pro Val Ala Val Ala Ile Glu Gly Val Tyr Ile Gly Gly Tyr  
     50                 55                 60  
 Thr Asn Glu Asn Gly Val Tyr His Ile Asn Asp Val Pro Thr Gly Ser  
     65                 70                 75                 80  
 Gln Thr Ile Val Val Ser Gly Ile Gly Val Lys Thr Lys Lys Val Pro

	85	90	95
Ile His Val Thr Ala Gly Lys Val Asn Arg Ile Pro Asp Ile Glu Ile			
100	105	110	
Asp Thr Gln Ala Glu Glu Leu Glu Val Gln Val Ile Gly Lys Ser			
115	120	125	
Glu Ala Arg Arg Gln Gln Glu Gln Ala Tyr Ala Ile Ser Val Leu Asp			
130	135	140	
Ile Lys Lys Ala Tyr Asn Ser Ala Ala Pro Leu Asn Lys Leu Leu Asn			
145	150	155	160
Asn Val Ser Ser Val Arg Ile Arg Glu Glu Gly Gly Met Gly Ser Asn			
165	170	175	
Tyr Asn Phe Ser Leu Asn Gly Phe Ser Gly Asn Gln Val Lys Phe Phe			
180	185	190	
Leu Asp Gly Ile Pro Met Asp Asn Phe Gly Ser Ser Phe Asn Leu Ala			
195	200	205	
Asn Ile Ser Ala Asn Met Ala Glu Arg Val Glu Val Tyr Lys Gly Val			
210	215	220	
Leu Pro Val Asn Leu Gly Ala Asp Ala Leu Gly Gly Ala Val Asn Ile			
225	230	235	240
Val Ser Arg Arg Asp Ala Asn Tyr Leu Asp Ala Thr Tyr Ser Phe Gly			
245	250	255	
Ser Phe Asn Thr His Lys Val Ser Val Asn Gly Ala Tyr Thr His Leu			
260	265	270	
Lys Thr Gly Phe Thr Val Arg Ala Asn Ala Phe Tyr Asn Tyr Ser Asp			
275	280	285	
Asn Asp Tyr Lys Val Phe Val Pro Ile Ile Asp Leu Ala Thr Asn Lys			
290	295	300	
Lys Ile Asp Glu Arg Trp Val Arg Arg Phe Asn Asp Ala Tyr Arg Ser			
305	310	315	320
Gly Gly Ile Arg Leu Glu Thr Gly Ile Thr Asn Lys Pro Tyr Ala Asp			
325	330	335	
Tyr Leu Leu Ala Gly Ile Ile Leu Ser Lys Asn Asp Lys Asp Val Gln			
340	345	350	
Thr Gly Ala Thr Met Asp Ala Val Tyr Gly Gly Val Lys Met Lys Ser			
355	360	365	
Glu Ser Val Ile Pro Ser Ile Arg Tyr Lys Lys Asp Asp Leu Phe Leu			
370	375	380	
Asp Gly Leu Ser Leu Ser Leu Tyr Gly Thr Tyr Asn Ser Val Asn Thr			
385	390	395	400
Phe Asn Val Asp Thr Ile Ala Arg Arg Tyr Asn Trp Leu Gly Glu Ser			
405	410	415	
Val Pro Ser Thr Ser Ala Gly Glu Gly Tyr Tyr Thr Asp Ser Lys Ile			
420	425	430	
Lys Asn Arg Glu Trp Leu Gly Asn Gly Asn Ile Ser Tyr Val Ile Asp			
435	440	445	
Gly His Gln Ser Leu Ile Leu Asn His Val Val Ser Ala Met Arg Arg			
450	455	460	
Thr Met Asn Asp Lys Val Arg Pro Asp Asp Glu Asn Asn Asn Val Pro			
465	470	475	480
Gln Gln Leu Thr Lys Asn Ile Thr Gly Leu Gly Trp Gln Ile Arg Tyr			
485	490	495	
Asp Arg Trp Asn Ala Asn Val Phe Gly Lys Met Tyr Lys Leu Tyr Ser			
500	505	510	
Ser Thr Tyr Lys Arg Leu Asp Glu Tyr Thr Glu Asn Ala Arg Trp Glu			
515	520	525	
Lys Val Arg Asp His Lys Thr Asn Phe Gly Tyr Gly Ala Ala Ala Thr			
530	535	540	
Tyr Tyr Ile Leu Pro Ser Leu Gln Ala Lys Phe Ser Tyr Glu His Ala			
545	550	555	560

Tyr Arg Leu Pro Glu Ser Ile Glu Met Phe Gly Asp Gly Leu Ile Gln  
 565 570 575  
 Gln Arg Asn Pro Asp Leu Lys Pro Glu Ser Ser Arg Asn Leu Asn Leu  
 580 585 590  
 Gly Leu Ser Phe Ile Gln Thr Phe Gly Ala His Gln Leu Ser Ala Asp  
 595 600 605  
 Gly Asn Phe Ile Tyr Arg Tyr Thr Thr Asp Phe Ile Leu Lys Gly Val  
 610 615 620  
 Ser Leu Thr Ser Asn Pro Thr Thr Gly Tyr Glu Asn Leu Gly Lys Val  
 625 630 635 640  
 Leu Thr Lys Gly Val Glu Ala Ala Val Arg Tyr Asn Tyr Lys Asp Leu  
 645 650 655  
 Phe His Thr Gly Ala Gly Phe Thr Tyr Gln Asp Ile Thr Asp Arg Gln  
 660 665 670  
 Arg Tyr Glu Lys Thr Lys Asp Ser Phe Val Gly Glu Gly Ile Thr Glu  
 675 680 685  
 Asn Ile Thr Tyr Lys Glu Arg Leu Pro Asn Ile Pro Tyr Leu Phe Ala  
 690 695 700  
 Asn Ala Asp Ala Gly Val Arg Phe His Asp Leu Ile Trp Arg Asn Ser  
 705 710 715 720  
 Val Leu Thr Phe Asp Tyr Asn Leu Asn Tyr Ile His Ser Tyr Tyr Leu  
 725 730 735  
 Ser Phe Pro Gly Leu Gly Ala Lys Ser Ser Lys Lys Val Ile Pro Glu  
 740 745 750  
 Gln Phe Ser His Asp Leu Ala Leu Gly Tyr Ser Met Asp Asn Gly Lys  
 755 760 765  
 Tyr Ser Val Val Val Glu Cys Thr Asn Leu Thr Asn Gln Lys Leu Tyr  
 770 775 780  
 Asp Asn Tyr Arg Leu Gln Lys Pro Gly Arg Ala Phe Asn Val Lys Leu  
 785 790 795 800  
 Arg Tyr Phe Phe Ser Lys Val Lys Lys Ser Asp Asp Tyr Asn Val Ser  
 805 810 815  
 Asn Leu Tyr Val Ser Pro Cys Cys Leu Pro Phe Ile Gly Cys His Gly  
 820 825 830  
 Met

<210> 7144  
 <211> 342  
 <212> PRT  
 <213> B.fragilis

<400> 7144  
 Leu Lys Lys His Thr Ile Met Lys Lys Ile Leu Phe Ala Ala Val Ala  
 1 5 10 15  
 Ala Met Ala Ile Thr Gly Cys Ser Gln Asn Glu Glu Ile Glu Lys Ala  
 20 25 30  
 Val Gln Pro Val Glu Ile Ser Phe Asn Thr Ala Val Ser Lys Thr Thr  
 35 40 45  
 Arg Ala Thr Thr Leu Val Asn Ser Ala Phe Thr Lys Phe Thr Ala Tyr  
 50 55 60  
 Ala Tyr Ser Thr Thr Glu Ala Phe Ala Asn Ala Thr Lys Val Asn Ala  
 65 70 75 80  
 Leu Ile Ser Gly Ala Glu Phe Thr Lys Gly Glu Asn Ser Ala Trp Gly  
 85 90 95  
 Ser Gly Asn Ser Val Phe Tyr Trp Pro Ala Thr Asp Gln Val Ser Phe  
 100 105 110  
 Phe Ala Phe Ser Pro Asn Thr Lys Glu Gln Leu Ser Trp Gly Ala Ala  
 115 120 125

Val Ala Glu Thr Ala Pro Thr Leu Thr Tyr Thr Val Lys Asp Ala Val  
 130 135 140  
 Lys Asp Gln Glu Asp Leu Val Val Ala Glu Val Met Asn Lys Gln Lys  
 145 150 155 160  
 Ala Thr Ser Gly Ser Thr Gly Ala Val Ala Leu Asn Phe Lys His Ala  
 165 170 175  
 Leu Thr Lys Val Gly Phe Lys Ile Lys Gly Glu Gly Ser Gly Val Thr  
 180 185 190  
 Tyr Thr Leu Asn Lys Ile Val Ile Asn Ala Lys Lys Lys Gly Val Tyr  
 195 200 205  
 Thr Tyr Ala Thr Ser Thr Thr Asp Glu Thr Thr Leu Gly Thr Trp Thr  
 210 215 220  
 Ile Pro Ser Asp Val Thr Ala Asn Thr Ala Tyr Thr Val Glu Pro Thr  
 225 230 235 240  
 Asn Ala Leu Ser Ile Thr Gly Ala Asp Ser Asp Ala Thr Val Asp Ala  
 245 250 255  
 Thr Leu Val Gly Ala Asp Tyr Thr Ala Met Leu Ile Pro Gln Asp Leu  
 260 265 270  
 Thr Gly Val Thr Phe Glu Ile Tyr Tyr Lys Ala Glu Ala Gly Gly Ala  
 275 280 285  
 Ile Leu Cys Asp Lys Thr Thr Pro Glu Glu Ile Thr Phe Ala Asp  
 290 295 300  
 Gly Thr Trp Thr Ala Gly Gln Ser Val Ala Tyr Val Leu Thr Leu Lys  
 305 310 315 320  
 Gly Val Glu Lys Met Ser Ile Thr Gly Ser Val Ala Asp Ser Trp Asp  
 325 330 335  
 Phe Thr Glu Thr Pro Lys  
 340

&lt;210&gt; 7145

&lt;211&gt; 377

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7145

Glu Met Asn Lys Thr Phe Arg Lys Ala Cys Ala Lys Leu His Leu Trp  
 1 5 10 15  
 Leu Gly Leu Leu Ser Gly Ile Val Val Phe Ile Val Cys Ile Thr Gly  
 20 25 30  
 Cys Met Tyr Ala Phe Lys Asp Glu Ile Thr Asp Ala Thr Gln Pro Trp  
 35 40 45  
 Arg Phe Val Ala Pro Leu Glu Lys Glu Phe Leu Pro Pro Ser Arg Leu  
 50 55 60  
 Leu Ala Ile Ala Asp Ser Val Met Gly Gly Ala Ser Ala Thr Ala Ile  
 65 70 75 80  
 Thr Tyr Gly Glu Arg Ser Asp Ala Ala Trp Val Asp Tyr Tyr Gln Pro  
 85 90 95  
 Glu Ala Gly Met Ser Thr Val Phe Ile Asn Pro Tyr Ser Gly Gln Val  
 100 105 110  
 Leu Lys Ser Val Val Asn His Asn Gly Asp Phe Asp Phe Phe Arg Leu  
 115 120 125  
 Val Leu Ser Gly His Arg Thr Leu Trp Leu Pro Arg Glu Ile Gly Ser  
 130 135 140  
 Pro Ile Val Gly Tyr Ser Val Leu Ile Phe Leu Ile Thr Leu Ile Thr  
 145 150 155 160  
 Gly Val Ile Leu Trp Trp Pro Arg Ser Trp Thr Arg Lys Ala Leu Val  
 165 170 175  
 Gln Arg Leu Thr Leu Lys Arg Pro Phe Thr Phe Ser Arg Leu Asn Phe  
 180 185 190

Asp Leu His Asn Val Ala Gly Phe Tyr Ala Ala Leu Val Leu Ala Val  
 195 . 200 205  
 Leu Cys Phe Thr Gly Leu Ile Phe Ser Leu Asn Trp Phe Ser Arg Gly  
 210 215 220  
 Val Tyr Ser Ile Thr Ser Gly Gly Glu Leu Lys Pro Tyr Val Leu  
 225 230 235 240  
 Pro Val Ser Asp Thr Leu Gln Val Val Asn Arg Val Thr Asn Pro Leu  
 245 250 255  
 Asp Arg Leu Tyr Thr Gln Leu Arg Leu Glu Glu Pro Ala Ala Lys Thr  
 260 265 270  
 Phe Tyr Phe Ala Leu Pro Gly Gln Ala Asp Gly Val Tyr Arg Val Ser  
 275 280 285  
 Val Val His Lys Arg Gly Ser Tyr Tyr Arg Thr Asp Asn Leu Phe Phe  
 290 295 300  
 Asp Arg Tyr Thr Leu Val Ser Leu Lys Gly Ala Gly Pro Tyr Ala Gly  
 305 310 315 320  
 Lys Tyr Thr Glu Ala Ser Pro Ala Asp Lys Phe Arg Arg Met Asn Leu  
 325 330 335  
 Glu Ile His Asp Gly Arg Ile Trp Gly Leu Pro Gly Lys Ile Ile Met  
 340 345 350  
 Phe Leu Ala Ser Leu Thr Gly Ala Ser Leu Pro Val Thr Gly Phe Ile  
 355 360 365  
 Ile Trp Tyr Arg Lys Arg Cys Lys Arg  
 370 375

&lt;210&gt; 7146

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7146

His Ser Val Lys Met Ile Ile Val Phe Ala Gln Ile Gly Leu Phe Thr  
 1 5 10 15  
 Ala Lys Ser Met Gly Thr Lys Lys Asn Arg Phe Pro Tyr Gly Leu Ala  
 20 25 30  
 Ile Phe Phe Leu Leu Ser Gln Ser Lys Lys Lys Gln Pro Asn Arg Lys  
 35 40 45  
 Gln Lys Gln Glu Lys Gln Glu Gln Asn Gly Arg Lys Lys Glu Tyr Met  
 50 55 60  
 Lys Val Phe Tyr Leu Ser Gly Ser Leu Leu His Ser Arg Ala Thr Gly  
 65 70 75 80  
 Gly Ala Tyr Ser Leu Ile Leu Leu Gln Asn Arg Asp Lys Glu Arg Thr  
 85 90 95

&lt;210&gt; 7147

&lt;211&gt; 142

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7147

Lys Asn Leu Lys Gly Leu Asn Lys Met Glu Lys Tyr Ile Tyr Glu Leu  
 1 5 10 15  
 Thr Leu Lys Val Arg Asp Tyr Glu Cys Asp Leu Gln Gly Ile Val Asn  
 20 25 30  
 Asn Ala Asn Tyr Gln His Tyr Leu Glu His Thr Arg His Glu Phe Leu  
 35 40 45  
 Ser Ser Val Gly Val Ser Phe Ala Lys Leu His Glu Glu Gly Val Asp  
 50 55 60  
 Pro Val Val Ala Arg Ile Asn Met Ala Phe Lys Thr Pro Leu Lys Ser

65	70	75	80
Gly Asp Glu Phe Val Ser Lys Leu Tyr Met Lys Lys Glu Gly Ile Lys			
85	90	95	
Tyr Val Phe Tyr Gln Asp Ile Phe Arg Lys Ser Asp Asp Lys Val Val			
100	105	110	
Val Lys Ser Thr Val Glu Thr Val Cys Val Val Asn Gly Arg Leu Ser			
115	120	125	
Asn Ser Glu Leu Phe Asp Gln Ile Phe Ala Pro Tyr Leu Gln			
130	135	140	

&lt;210&gt; 7148

&lt;211&gt; 255

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7148

Arg Lys Thr Lys Met Asp Lys Asn Ile Ser Phe Thr Leu Lys Val Trp			
1	5	10	15
Arg Gln Lys Gly Pro Lys Ala Lys Gly Ala Phe Glu Thr Tyr Gln Met			
20	25	30	
Lys Asp Ile Pro Gly Asp Thr Ser Phe Leu Glu Met Leu Asp Ile Leu			
35	40	45	
Asn Glu Gln Ile Ile Asn Asp Gly Gly Glu Pro Ile Val Phe Asp His			
50	55	60	
Asp Cys Arg Glu Gly Ile Cys Gly Met Cys Ser Leu Tyr Ile Asn Gly			
65	70	75	80
His Pro His Gly Pro Ala Thr Gly Ala Thr Thr Cys Gln Met Tyr Met			
85	90	95	
Arg Arg Phe Lys Asp Gly Asp Thr Ile Thr Val Glu Pro Trp Arg Ser			
100	105	110	
Ala Gly Phe Pro Val Ile Arg Asp Leu Met Val Asp Arg Ser Ala Tyr			
115	120	125	
Asp Lys Ile Met Gln Ala Gly Gly Tyr Val Ser Val Asn Thr Gly Ala			
130	135	140	
Pro Gln Asp Ala Asn Ala Ile Leu Ile Ser Lys Asp Ile Ala Asp Glu			
145	150	155	160
Ala Met Asp Ala Ala Ala Cys Ile Gly Cys Gly Ala Cys Val Ala Ala			
165	170	175	
Cys Lys Asn Gly Ser Ala Met Leu Phe Val Ser Ala Lys Val Ser Gln			
180	185	190	
Leu Asn Leu Leu Pro Gln Gly Lys Val Glu Ala Ala Arg Arg Ala Lys			
195	200	205	
Ala Met Leu Ser Lys Met Asp Glu Leu Gly Phe Gly Asn Cys Thr Asn			
210	215	220	
Thr Arg Ala Cys Glu Ala Glu Cys Pro Lys Asn Ile Ser Ile Ser Asn			
225	230	235	240
Ile Ala Arg Leu Asn Arg Asp Phe Ile Ile Ala Lys Leu Lys Asp			
245	250	255	

&lt;210&gt; 7149

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7149

Thr Ser Arg Lys Met Lys Lys Phe Val Leu Ile Cys Phe Cys Val Leu			
1	5	10	15
Ser Ser Val Gly Gly Tyr Ala Gln Asn Trp Asp Ile Asn Thr Leu His			
20	25	30	

Lys Ile Asn Ser Leu Asp Ser Lys Phe Ala Arg Asn Tyr Ser Lys Ala  
   35                   40                   45  
 Phe Ser Lys Ser Ala Pro Tyr Ile Ala Val Gly Val Pro Val Ala Met  
   50                   55                   60  
 Ala Val Tyr Ala Gly Ile Asp Lys Asp Lys Glu Leu Leu Lys Asp Ala  
   65                   70                   75                   80  
 Ile Tyr Ile Gly Thr Ser Val Ala Glu Ala Val Val Ile Thr Tyr Gly  
   85                   90                   95  
 Met Lys Tyr Ala Phe Asp Arg Glu Arg Pro Tyr Asp Arg Tyr Pro Asp  
   100                 105                 110  
 Arg Val Asp Ala Arg Ser His Glu Ser Ser Pro Ser Phe Pro Ser Gly  
   115                 120                 125  
 His Thr Ala Ala Ala Phe Ser Leu Ala Thr Ser Leu Ser Ile Arg Tyr  
   130                 135                 140  
 Pro Lys Trp Tyr Val Ile Ala Pro Ser Ala Phe Trp Ala Cys Ser Val  
   145                 150                 155                 160  
 Gly Phe Ser Arg Met Asn Glu Gly Val His Tyr Pro Ser Asp Val Ala  
   165                 170                 175  
 Ala Gly Ala Val Ile Gly Ala Gly Cys Ala Val Ala Asn Ile Tyr Val  
   180                 185                 190  
 Asn Arg Trp Leu Asn Lys Trp Leu Phe Gly Glu Lys Lys Lys Val Thr  
   195                 200                 205  
 Ile Ser Tyr  
   210

&lt;210&gt; 7150

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7150

Leu Ser Phe Asp Gln Asn Phe Met Glu Ser Ile Leu Ile Thr Gly Ala  
   1                 5                 10                 15  
 Ser Gly Phe Ile Gly Ser Phe Ile Val Gln Glu Ala Leu Lys Arg Arg  
   20                 25                 30  
 Phe Gly Val Trp Ala Gly Ile Arg Ala Ser Ser Ser Lys Lys Tyr Leu  
   35                 40                 45  
 Lys Glu Arg Lys Ile His Phe Leu Glu Leu Asp Phe Ala His Pro Asn  
   50                 55                 60  
 Glu Leu Arg Ala Gln Leu Ser Gly His Lys Gly Thr Tyr Asn Lys Phe  
   65                 70                 75                 80  
 Asp Tyr Ile Val His Cys Ala Gly Val Thr Lys Cys Ala Asp Lys Ser  
   85                 90                 95  
 Asp Phe Asp Arg Val Asn Tyr Leu Gln Thr Lys Tyr Phe Val Asp Thr  
   100                105                110  
 Leu Arg Glu Leu Asn Met Ile Pro Lys Gln Phe Ile Tyr Ile Ser Thr  
   115                120                125  
 Leu Ser Val Phe Gly Pro Ile Arg Glu Lys Asp Tyr Ser Pro Ile Ser  
   130                135                140  
 Glu Glu Asp Thr Pro Ala Pro Asn Thr Ala Tyr Gly Leu Ser Lys Leu  
   145                150                155                160  
 Lys Ala Glu Leu Tyr Ile Gln Ser Ile Pro Gly Phe Pro Tyr Val Ile  
   165                170                175  
 Tyr Arg Pro Thr Gly Val Tyr Gly Pro Arg Glu Ala Asp Tyr Phe Leu  
   180                185                190  
 Met Ala Lys Ser Ile Arg Gln His Thr Asp Phe Ser Val Gly Tyr Lys  
   195                200                205  
 Arg Gln Asp Leu Thr Phe Val Tyr Val Lys Asp Ile Val Gln Ala Ile  
   210                215                220

Phe Leu Gly Ile Glu Lys Glu Val Ser Arg Arg Ala Tyr Phe Leu Ser  
 225 230 235 240  
 Asp Gly Lys Val Tyr Lys Ser Arg Ala Phe Ser Asp Leu Ile Gln Lys  
 245 250 255  
 Glu Leu Gly Asp Pro Phe Val Ile His Ile Lys Cys Pro Leu Ile Val  
 260 265 270  
 Leu Lys Val Val Ser Leu Leu Ala Glu Phe Ile Ala Thr Arg Ser Gly  
 275 280 285  
 Lys Ser Ser Thr Leu Asn Ser Asp Lys Tyr Lys Ile Met Lys Gln Arg  
 290 295 300  
 Asn Trp Gln Cys Asp Ile Thr Pro Ala Val Lys Glu Leu Gly Tyr Ala  
 305 310 315 320  
 Pro Glu Tyr Asp Leu Glu Lys Gly Val Lys Glu Thr Ile Ala Trp Tyr  
 325 330 335  
 Lys Asn Glu Gly Trp Leu  
 340

&lt;210&gt; 7151

&lt;211&gt; 164

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 7151

Phe	Tyr	Gln	Glu	Asn	Ile	Val	Met	Lys	Thr	Val	Ile	Ile	Glu	Asn	Lys	
1					5				10					15		
Glu	Gln	Val	Glu	Glu	Ile	Ile	Ser	Arg	Cys	Asp	Ile	Cys	Phe	Val	Gly	
					20				25					30		
Ile	Thr	Asp	Leu	Glu	Gly	Asn	Pro	Tyr	Val	Ile	Pro	Met	Asn	Phe	Gly	
					35				40					45		
Tyr	Gln	Asp	Gly	Val	Ile	Tyr	Leu	His	Ser	Gly	Pro	Thr	Gly	Ser	Ser	
					50				55					60		
Ile	Asp	Met	Leu	Ala	Arg	Asn	Asn	Arg	Val	Cys	Ile	Thr	Phe	Ser	Val	
					65				70					75		80
Asp	His	Glu	Leu	Val	Phe	Gln	His	Pro	Lys	Val	Ala	Cys	Ser	Tyr	Arg	
					85				90					95		
Met	Arg	Ala	Lys	Ser	Val	Ile	Cys	Arg	Gly	Arg	Val	Asn	Phe	Ile	Glu	
					100				105					110		
Asp	Pro	Glu	Glu	Lys	Arg	Glu	Ala	Leu	Asn	Ile	Leu	Met	Arg	His	Tyr	
					115				120					125		
Ser	Ser	Arg	Glu	Phe	Val	Tyr	Ser	Asp	Pro	Ala	Val	Lys	Asn	Val	Lys	
					130				135					140		
Ile	Trp	Glu	Ile	Pro	Ile	Asp	Ser	Val	Thr	Ala	Lys	Glu	Tyr	Ala	Val	
					145				150					155		160
Pro	His	Thr	Lys													

&lt;210&gt; 7152

&lt;211&gt; 330

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 7152

Ile	Glu	Asn	Arg	Lys	Lys	Met	Lys	Ile	Gly	His	Ile	Asp	Leu	Gly	Glu	
1						5				10				15		
Arg	Pro	Val	Phe	Leu	Ala	Pro	Met	Glu	Asp	Val	Thr	Asp	Pro	Ala	Phe	
						20				25				30		
Arg	Leu	Met	Cys	Lys	Lys	Phe	Gly	Ala	Asp	Met	Val	Tyr	Thr	Glu	Phe	
						35				40				45		
Val	Ser	Ser	Asp	Ala	Leu	Ile	Arg	Ser	Val	Asn	Lys	Thr	Thr	Gln	Lys	

50	55	60
Leu Thr Ile Cys Asp Glu Glu Arg Pro Val Ala Ile Gln Ile Tyr Gly		
65	70	75
Lys Asp Thr Glu Ala Met Val Gly Ala Ala Arg Ile Val Glu Glu Ala		80
85	90	95
Gln Pro Asp Ile Leu Asp Ile Asn Phe Gly Cys Pro Val Lys Lys Val		
100	105	110
Ala Gly Lys Gly Ala Gly Ala Gly Met Leu Gln Asn Ile Pro Lys Met		
115	120	125
Leu Glu Ile Thr Arg Ala Val Val Asp Ala Val Lys Ile Pro Val Thr		
130	135	140
Val Lys Thr Arg Leu Gly Trp Asp Ala Asp His Lys Ile Ile Val Asp		
145	150	155
Leu Ala Glu Gln Leu Gln Asp Cys Gly Ile Ala Ala Leu Ala Ile His		160
165	170	175
Gly Arg Thr Arg Ala Gln Met Tyr Thr Gly Glu Ala Asp Trp Thr Leu		
180	185	190
Ile Gly Glu Val Lys Asn Asn Pro Arg Met His Ile Pro Ile Ile Gly		
195	200	205
Asn Gly Asp Val Thr Thr Ala Ala Gly Ala Lys Glu Cys Phe Glu Arg		
210	215	220
Tyr Gly Val Asp Ala Ile Met Ile Gly Arg Gly Ser Ile Gly Arg Pro		
225	230	235
Trp Ile Phe Arg Glu Val Lys His Tyr Leu Glu Thr Gly Glu Glu Leu		
245	250	255
Pro Arg Glu Ser Phe Glu Trp Tyr Leu Asp Val Leu Arg Glu Glu Val		
260	265	270
Leu Asn Ser Val Ala Arg Leu Asp Glu Arg Arg Gly Ile Ile His Ile		
275	280	285
Arg Arg His Leu Ala Ala Thr Pro Leu Phe Lys Gly Ile Pro Asn Phe		
290	295	300
Arg Glu Thr Arg Ile Ala Met Leu Arg Thr Glu Ser Val Glu Glu Leu		
305	310	315
Phe Arg Ile Phe Asp Gly Leu Thr Thr Glu		320
	325	330

&lt;210&gt; 7153

&lt;211&gt; 652

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7153

Ile Val Asn Ser Ile Met Thr Lys Ile Asp Ser Lys Ile Pro Glu Gly		
1	5	10
Gln Leu Ala Glu Lys Trp Ser Asn Tyr Lys Ala His Gln Lys Leu Val		15
20	25	30
Asn Pro Ala Asn Lys Arg Arg Leu Asp Ile Ile Val Val Gly Thr Gly		
35	40	45
Leu Ala Gly Ala Ser Ala Ala Ala Ser Leu Gly Glu Met Gly Phe Arg		
50	55	60
Val Phe Asn Phe Cys Ile Gln Asp Ser Pro Arg Arg Ala His Ser Ile		
65	70	75
Ala Ala Gln Gly Gly Ile Asn Ala Ala Lys Asn Tyr Gln Asn Asp Gly		80
85	90	95
Asp Ser Val Tyr Arg Leu Phe Tyr Asp Thr Ile Lys Gly Gly Asp Tyr		
100	105	110
Arg Ala Arg Glu Ala Asn Val Tyr Arg Leu Ala Glu Val Ser Asn Ala		
115	120	125
Ile Ile Asp Gln Cys Val Ala Gln Gly Val Pro Phe Ala Arg Asp Tyr		

130	135	140													
Gly	Gly	Thr	Leu	Asp	Asn	Arg	Ser	Phe	Gly	Gly	Ala	Gln	Val	Ser	Arg
145															160
Thr	Phe	Tyr	Ala	Arg	Gly	Gln	Thr	Gly	Gln	Gln	Leu	Leu	Leu	Gly	Ala
							165				170			175	
Tyr	Ser	Ala	Leu	Ser	Arg	Gln	Val	Gln	Lys	Gly	Thr	Val	Lys	Leu	Tyr
							180		185			190			
Thr	Arg	Tyr	Glu	Met	Leu	Asp	Leu	Val	Val	Ile	Glu	Gly	Arg	Ala	Arg
							195		200			205			
Gly	Ile	Ile	Ala	Arg	Asn	Leu	Val	Thr	Gly	Glu	Ile	Glu	Arg	Phe	Ala
							210		215			220			
Ala	His	Ala	Val	Val	Ile	Gly	Thr	Gly	Gly	Tyr	Gly	Asn	Ala	Phe	Phe
							225		230			235			240
Leu	Ser	Thr	Asn	Ala	Met	Gly	Ser	Asn	Gly	Ser	Val	Ala	Ile	Gln	Cys
							245			250			255		
Tyr	Lys	Lys	Gly	Ala	Tyr	Phe	Ala	Asn	Pro	Cys	Phe	Ala	Gln	Ile	His
							260			265			270		
Pro	Thr	Cys	Ile	Pro	Val	His	Gly	Asp	Lys	Gln	Ser	Lys	Leu	Thr	Leu
							275		280			285			
Met	Ser	Glu	Ser	Leu	Arg	Asn	Asp	Gly	Arg	Ile	Trp	Val	Pro	Lys	Lys
							290		295			300			
Ile	Glu	Asp	Ala	Lys	Ala	Leu	Gln	Ala	Gly	Thr	Lys	Lys	Pro	Thr	Glu
							305		310			315			320
Ile	Pro	Asp	Glu	Asp	Arg	Asp	Phe	Tyr	Leu	Glu	Arg	Arg	Tyr	Pro	Ala
							325			330			335		
Phe	Gly	Asn	Leu	Val	Pro	Arg	Asp	Val	Ala	Ser	Arg	Ala	Ala	Lys	Glu
							340			345			350		
Arg	Cys	Asp	Ala	Gly	Phe	Gly	Val	Asn	Asn	Thr	Gly	Leu	Ala	Val	Phe
							355		360			365			
Leu	Asp	Phe	Lys	Tyr	Ala	Ile	Asp	Arg	Leu	Gly	Glu	Asp	Val	Val	Arg
							370		375			380			
Ala	Arg	Tyr	Gly	Asn	Leu	Phe	Asp	Met	Tyr	Glu	Glu	Ile	Thr	Asp	Glu
							385		390			395			400
Asn	Pro	Tyr	Lys	Thr	Pro	Met	Met	Ile	Phe	Pro	Ala	Ile	His	Tyr	Thr
							405			410			415		
Met	Gly	Gly	Ile	Trp	Val	Asp	Tyr	Glu	Leu	Met	Thr	Ser	Ile	Pro	Gly
							420			425			430		
Leu	Phe	Ala	Ile	Gly	Glu	Ala	Asn	Phe	Ser	Asp	His	Gly	Ala	Asn	Arg
							435		440			445			
Leu	Gly	Ala	Ser	Ala	Leu	Met	Gln	Gly	Leu	Ala	Asp	Gly	Tyr	Phe	Val
							450		455			460			
Leu	Pro	Tyr	Thr	Ile	Gln	Asn	Tyr	Leu	Ala	Asp	Gln	Ile	Gln	Val	Pro
							465		470			475			480
Arg	Phe	Ser	Thr	Asp	Leu	Pro	Glu	Phe	Ala	Ala	Ala	Glu	Lys	Glu	Val
							485			490			495		
Lys	Asp	Lys	Ile	Gln	Lys	Ile	Lys	Ala	Val	Asn	Gly	Lys	His	Ser	Val
							500			505			510		
Asp	Ser	Ile	His	Lys	Lys	Leu	Gly	His	Ile	Met	Trp	Asp	Phe	Val	Gly
							515		520			525			
Met	Ala	Arg	Thr	Lys	Glu	Ser	Leu	Gln	Lys	Ala	Leu	Thr	Gly	Ile	Glu
							530			535			540		
Glu	Val	Lys	Lys	Asp	Phe	Trp	Thr	Asn	Val	Arg	Ile	Pro	Gly	Asp	Val
							545		550			555			560
Asn	Glu	Leu	Asn	Val	Glu	Leu	Glu	Lys	Ala	Leu	Arg	Leu	Ile	Asp	Phe
							565			570			575		
Ile	Glu	Val	Gly	Met	Leu	Met	Ala	Arg	Asp	Gly	Leu	Asn	Arg	Glu	Glu
							580			585			590		
Ser	Cys	Gly	Gly	His	Phe	Arg	Thr	Glu	Tyr	Gln	Thr	Pro	Glu	Gly	Glu
							595			600			605		

Ala Leu Arg Asp Asp Lys Asn Phe Ser Tyr Val Ala Cys Trp Lys Tyr  
 610 615 620  
 Thr Gly Glu Asn Ser Glu Pro Glu Leu Ile Lys Glu Asp Leu Asn Tyr  
 625 630 635 640  
 Gln Phe Val Lys Val Gln Thr Arg Asn Tyr Lys Ser  
 645 650

<210> 7154

<211> 292

<212> PRT

<213> B.fragilis

<400> 7154

Phe Met Ala Arg Glu Thr Gln Cys Asn Arg Gln Thr Asp Cys Ala Gln  
 1 5 10 15  
 Cys Pro Lys Ala Thr Glu Gly Ile Leu Val His Arg Lys Phe Pro Lys  
 20 25 30  
 Gly Gln His Phe Pro Pro Asp Lys Cys Thr Gln Asn Cys Ile Leu Phe  
 35 40 45  
 Ile Leu Gln Gly Glu Leu Leu Val Asn Ser Glu Glu Tyr Pro Gly Thr  
 50 55 60  
 Thr Leu Arg Glu Gly Gln Phe Ile Leu Gln Ser Ile Gly Ser Lys Leu  
 65 70 75 80  
 Glu Leu Leu Ala Leu Thr Asp Val Asn Tyr Val Val Tyr Trp Phe Asn  
 85 90 95  
 Glu Pro Pro Leu Ile Cys Glu Gln Arg Tyr His Glu Ile Leu Gln Gln  
 100 105 110  
 Ser Glu Ala Pro Leu Thr Tyr Thr Pro Leu Val Met Thr Gln Arg Ile  
 115 120 125  
 Thr Asn Phe Met Lys Asp Ile Cys Asp Tyr Leu Asp Glu Gln Met Pro  
 130 135 140  
 Cys Gly Ala Phe Ile Asp Leu Lys Cys Gln Glu Leu Met Tyr Leu Ile  
 145 150 155 160  
 Ile Cys Tyr Tyr Pro Thr Pro Gln Leu Ser Lys Phe Phe Tyr Pro Ile  
 165 170 175  
 Ser Ser Tyr Thr Glu Ser Phe Gln Tyr Phe Val Met Gln Asn Tyr Glu  
 180 185 190  
 Lys Val Lys Asn Val Glu Glu Phe Ala His Leu Gly Gly Tyr Thr Thr  
 195 200 205  
 Thr Thr Phe Arg Arg Leu Phe Lys Asn Met Tyr Gly Val Pro Val Tyr  
 210 215 220  
 Glu Trp Ile Leu Ser Lys Lys Arg Glu Gly Ile Leu Glu Asp Leu Gln  
 225 230 235 240  
 His Thr Lys Gln Arg Ile Thr Glu Ile Ser Asn Arg Tyr Gly Phe Asp  
 245 250 255  
 Ser Leu Ser His Phe Ala His Phe Cys Lys Ala Ser Phe Gly Asp Ser  
 260 265 270  
 Pro Arg Ala Leu Arg Thr Arg Ala Ala Arg Gly Glu Lys Ile Thr Ala  
 275 280 285  
 Leu Lys Thr Glu  
 290

<210> 7155

<211> 300

<212> PRT

<213> B.fragilis

<400> 7155

Gln Met Glu Ser Glu Lys Ser Ser Arg Glu Lys Gly Ile Tyr Lys Val

1	5	10	15
Thr Ile Val Gly Ser Ile Val Asn Phe Leu Leu Leu Val Phe Lys Phe			
20	25	30	
Phe Ala Gly Ile Ala Gly His Ser Ala Ala Met Leu Ala Asp Ala Val			
35	40	45	
His Ser Leu Ser Asp Phe Ile Thr Asp Ile Val Val Ile Val Phe Val			
50	55	60	
Arg Ile Ala Gly Lys Pro Glu Asp Lys Gly His Asp Tyr Gly His Gly			
65	70	75	80
Lys Tyr Glu Thr Leu Ala Thr Ala Ile Ile Gly Leu Leu Leu Cys			
85	90	95	
Val Gly Phe Gly Ile Phe Trp Asn Gly Ala Ser Ser Ile Tyr Thr Phe			
100	105	110	
Leu Arg Gly Gly Gln Leu Glu Ser Pro Gly Val Val Ala Leu Val Ala			
115	120	125	
Ala Leu Val Ser Ile Val Ser Lys Glu Ile Leu Tyr Gln Tyr Thr Val			
130	135	140	
Ile Gln Gly Lys Lys Leu Asn Ser Gln Ala Val Ile Ala Asn Ala Trp			
145	150	155	160
His His Arg Ser Asp Ala Leu Ser Ser Ile Gly Thr Ala Ile Gly Ile			
165	170	175	
Gly Gly Ala Ile Leu Leu Gly Asp His Trp Arg Val Leu Asp Pro Val			
180	185	190	
Ala Ala Val Val Val Ser Phe Phe Ile Met Lys Val Ser Val Arg Leu			
195	200	205	
Leu Ile Pro Cys Val Asp Glu Leu Leu Glu Lys Ser Leu Pro Glu Asp			
210	215	220	
Val Glu Lys Glu Ile Glu Gln Thr Val Leu Ser Phe Pro Gly Val Ser			
225	230	235	240
Gln Pro His His Leu Arg Thr Arg Arg Ile Gly Asn Tyr Tyr Ala Ile			
245	250	255	
Glu Leu His Val Arg Met Asp Gly Lys Ile Thr Leu Glu Glu Ala His			
260	265	270	
Ser Thr Ala Thr Ala Ile Glu Asn Lys Leu Lys Glu Met Phe Gly Lys			
275	280	285	
Gly Thr His Val Gly Ile His Val Glu Pro Thr Lys			
290	295	300	

&lt;210&gt; 7156

&lt;211&gt; 74

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7156

Pro Tyr Leu Ser Arg Ala Ile Lys Cys Ile Ile Tyr Tyr Asn Ile Met			
1	5	10	15
Asp Ser Pro Ile Phe Glu Asn Arg Ile Gln Val Leu Tyr Leu Asn Pro			
20	25	30	
Glu Val Phe Tyr Leu His Lys Met Met Asp Ser Ile Glu Tyr Tyr Leu			
35	40	45	
Gly Val Ser Val Lys Ser Gln Leu Ser Ala Thr Glu Pro Val Ile Asp			
50	55	60	
Ile Phe Ser Thr Pro Phe Asn Val Asn Thr			
65	70		

&lt;210&gt; 7157

&lt;211&gt; 317

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7157

Thr Asp Met Gly Lys Ile Ala Lys Lys Leu Thr Asp Leu Val Gly Asn  
 1 5 10 15  
 Thr Pro Leu Leu Glu Leu Ser Asn Tyr Asn Ala Ser Asn Gly Leu Lys  
 20 25 30  
 Ala Arg Val Val Ala Lys Leu Glu Tyr Phe Asn Pro Ala Gly Ser Val  
 35 40 45  
 Lys Asp Arg Ile Ser Leu Ala Met Val Glu Asp Ala Glu Ala Lys Gly  
 50 55 60  
 Thr Leu Lys Ser Gly Ala Thr Ile Ile Glu Pro Thr Ser Gly Asn Thr  
 65 70 75 80  
 Gly Val Gly Leu Ala Phe Val Ala Ala Lys Gly Tyr Lys Leu Ile  
 85 90 95  
 Leu Thr Met Pro Asp Thr Met Ser Met Glu Arg Arg Asn Leu Leu Lys  
 100 105 110  
 Ala Leu Gly Ala Glu Leu Val Leu Thr Pro Gly Ala Asn Gly Met Lys  
 115 120 125  
 Gly Ala Ile Ala Lys Ala Glu Glu Leu Arg Ala Ala Thr Pro Gly Ser  
 130 135 140  
 Val Ile Leu Gln Gln Phe Glu Asn Pro Ala Asn Pro Ala Val His Val  
 145 150 155 160  
 Arg Thr Thr Gly Gln Glu Ile Trp Arg Asp Thr Asp Gly Lys Val Asp  
 165 170 175  
 Ile Phe Val Ala Gly Val Gly Thr Gly Gly Thr Val Ser Gly Val Gly  
 180 185 190  
 Ala Ala Leu Lys Glu His Asn Pro Ala Val Arg Ile Val Ala Val Glu  
 195 200 205  
 Pro Val Asp Ser Pro Val Leu Ser Gly Gly Val Pro Gly Pro His Lys  
 210 215 220  
 Ile Gln Gly Ile Gly Ala Gly Phe Ile Pro Lys Thr Tyr His Ala Ala  
 225 230 235 240  
 Val Val Asp Glu Ile Arg Gln Val Gly Asn Asp Asp Ala Ile Arg Thr  
 245 250 255  
 Ser Arg Glu Leu Ala Ala Lys Glu Gly Leu Leu Val Gly Ile Ser Ser  
 260 265 270  
 Gly Ala Ala Val Tyr Ala Ala Thr Glu Leu Ala Lys Leu Pro Glu Asn  
 275 280 285  
 Glu Gly Lys Leu Ile Val Val Leu Leu Pro Asp Thr Gly Glu Arg Tyr  
 290 295 300  
 Leu Ser Thr Ile Leu Tyr Ala Phe Glu Glu Tyr Pro Leu  
 305 310 315

&lt;210&gt; 7158

<211> 425  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7158

Phe Val Thr Met Tyr Lys Ile Asn Asp Phe Glu Ile Met Ala Pro Val  
 1 5 10 15  
 Gly Ser Arg Glu Ser Leu Ala Ala Ile Gln Ala Gly Ala Asp Ser  
 20 25 30  
 Ile Tyr Phe Gly Ile Glu Asn Leu Asn Met Arg Ala Arg Ser Ala Asn  
 35 40 45  
 Thr Phe Thr Ile Glu Asp Leu Arg Glu Ile Ala Arg Thr Cys Asp Glu  
 50 55 60  
 His Gly Met Lys Ser Tyr Leu Thr Val Asn Thr Ile Ile Tyr Asp Lys  
 65 70 75 80

Asp Ile Glu Leu Met Arg Thr Ile Val Asp Ala Ala Lys Glu Ala Gly  
       85                 90                 95  
 Ile Ser Ala Val Ile Ala Ala Asp Val Ala Val Met Ser Tyr Ala Asn  
       100                105                110  
 Lys Ile Gly Gln Glu Val His Leu Ser Thr Gln Leu Asn Ile Ser Asn  
       115                120                125  
 Ala Glu Ala Leu Lys Phe Tyr Ala Gln Phe Ala Asp Val Val Val Leu  
       130                135                140  
 Ala Arg Glu Leu Asn Leu Glu Gln Val Ala Glu Ile Tyr Arg Gln Ile  
       145                150                155                160  
 Gln Glu Glu His Ile Cys Gly Pro Ser Gly Glu Leu Ile Arg Ile Glu  
       165                170                175  
 Met Phe Cys His Gly Ala Leu Cys Met Ala Val Ser Gly Lys Cys Tyr  
       180                185                190  
 Leu Ser Leu His Glu Met Asn His Ser Ala Asn Arg Gly Ala Cys Met  
       195                200                205  
 Gln Ile Cys Arg Arg Ala Tyr Thr Val Arg Asp Lys Asp Thr Asp Val  
       210                215                220  
 Glu Leu Glu Val Asp Asn Gln Tyr Ile Met Ser Pro Lys Asp Leu Lys  
       225                230                235                240  
 Thr Ile His Phe Met Asn Lys Met Ile Asp Ala Gly Val Arg Val Phe  
       245                250                255  
 Lys Ile Glu Gly Arg Ala Arg Gly Pro Glu Tyr Val Arg Thr Val Val  
       260                265                270  
 Glu Cys Tyr Lys Gln Ala Ile Arg Ala Tyr Leu Asp Asp Ser Phe Thr  
       275                280                285  
 Asp Glu Lys Ile Ala Ala Trp Asp Glu Arg Leu Lys Thr Val Phe Asn  
       290                295                300  
 Arg Gly Phe Trp Asp Gly Tyr Tyr Leu Gly Gln Arg Leu Gly Glu Trp  
       305                310                315                320  
 Thr Lys Asn Tyr Gly Ser Ala Ala Thr Glu Arg Lys Ile Tyr Val Gly  
       325                330                335  
 Lys Gly Ile Lys Tyr Phe Ser Asn Ile Gly Val Ala Glu Phe Leu Val  
       340                345                350  
 Glu Ala Ala Glu Val Ser Val Gly Asp Lys Leu Leu Ile Thr Gly Pro  
       355                360                365  
 Thr Thr Gly Ala Val Phe Ala Thr Leu Asp Glu Ala Arg Val Glu Leu  
       370                375                380  
 Asn Pro Val Glu Thr Val Lys Lys Gly Glu His Phe Ser Met Lys Leu  
       385                390                395                400  
 Asp Lys Ile Arg Pro Ser Asp Lys Leu Tyr Lys Leu Val Ser Thr Glu  
       405                410                415  
 Glu Leu Lys Lys Phe Lys Gly Leu Glu  
       420                425

<210> 7159

<211> 321

<212> PRT

<213> B.fragilis

<400> 7159

Met Lys Asp Ile Thr Arg Leu Leu Cys Met Val Leu Leu Ser Phe Leu  
 1                  5                 10                 15  
 Val Val Thr Gly Cys Ser Arg Arg Asp Ile Leu Asp Asp Tyr Pro Val  
       20                25                30  
 Ser Gly Val Glu Val Arg Leu Asp Trp Ser Gly Val Thr Glu Lys Leu  
       35                40                45  
 Pro Glu Gly Val Arg Ile Ile Phe Tyr Pro Lys Asp Glu Lys Gly Arg  
       50                55                60

Lys Ile Asp Thr Tyr Leu Ser Val Thr Gly Gly Glu Val Lys Val Pro  
 65 70 75 80  
 Ser Gly His Tyr Ala Val Val Ile Tyr Asn Tyr Asp Thr Glu Thr Val  
 85 90 95  
 Leu Ile Arg Gly Glu Glu Ser Tyr Glu Thr Ile Gln Ala Tyr Thr Asn  
 100 105 110  
 Phe Cys Lys Leu Gly Ile Ala Gly Thr Glu Lys Met Val Trp Gly Pro  
 115 120 125  
 Asp Pro Leu Tyr Val Val Asn Ile Asp Asp Leu Asp Ile Gln Asn Ser  
 130 135 140  
 Glu Glu Thr Leu Ile Leu Lys Leu Lys Pro Lys Leu Val Ile Arg Thr  
 145 150 155 160  
 Tyr Ser Phe Ser Ile Lys Val Gln Gly Leu Ser Asn Val Ser Asn Val  
 165 170 175  
 Ile Gly Ser Ile Gly Gly Met Ala Asp His Tyr Phe Leu Gly Lys Ala  
 180 185 190  
 Tyr Ala Met Cys Asp Asp Tyr Pro Ile Asn Ile Asp Leu Asn Val Lys  
 195 200 205  
 Ala Gly Lys Ile Glu Gly Val Phe Thr Thr Phe Gly Leu Pro Glu Ala  
 210 215 220  
 Ile Ile Thr Arg Leu Glu Ile Lys Leu Pro Val Met Met Asn Leu Met  
 225 230 235 240  
 Ile Ile Lys Val Asp Asn Ser Val Gln Glu Val Lys Ile Asn Ile Thr  
 245 250 255  
 Glu Ala Val Gln Glu Pro Thr Gly Gly Glu Gly Gly Glu Gly Glu  
 260 265 270  
 Glu Thr Lys Pro Pro Ala Leu Val Glu Val Glu Ile Glu Asp Glu Ile  
 275 280 285  
 Lys Val Asp Asp Val Glu Thr Pro Pro Ser Gly Gly Gly Ile Gly  
 290 295 300  
 Gly Asp Val Gly Asp Trp Asp Asp Glu Thr Asn Val Glu Leu Pro Val  
 305 310 315 320  
 Gly

<210> 7160  
 <211> 718  
 <212> PRT  
 <213> B.fragilis

<400> 7160  
 Asn Glu Pro Ile Met Ala Lys Lys Lys Glu Lys Lys Ala Gly Lys Arg  
 1 5 10 15  
 Met Lys Lys Lys Glu Leu Ser Lys Ala Val Leu Asp Phe Phe His Ala  
 20 25 30  
 Lys Gln Asp Glu Val Ile Ser Leu Lys Tyr Ile Phe Ser Glu Leu Lys  
 35 40 45  
 Leu Thr Thr His Pro Leu Lys Met Leu Cys Met Asp Ile Leu Ser Asp  
 50 55 60  
 Leu Leu Ala Asp Asp Tyr Ile Thr Glu Val Asp Lys Asn Lys Tyr Lys  
 65 70 75 80  
 Leu Asn Asn His Gly Ile Glu Met Thr Gly Thr Phe Gln Arg Lys Ser  
 85 90 95  
 Asn Gly Lys Asn Ser Phe Ile Pro Glu Gly Gly Asp Pro Ile Phe  
 100 105 110  
 Val Ala Glu Arg Asn Ser Ala His Ala Met Asn Asn Asp Lys Val Arg  
 115 120 125  
 Ile Ala Phe Tyr Ala Lys Arg Arg Gly Cys Glu Ala Glu Gly Glu Val  
 130 135 140

Ile Glu Ile Leu Gln Arg Ala Asn Asp Thr Phe Val Gly Thr Leu Glu  
 145 150 155 160  
 Val Glu Lys Ser Tyr Ala Phe Leu Val Thr Glu Asn Arg Thr Leu Ala  
 165 170 175  
 Asn Asp Ile Phe Ile Pro Lys Asp Lys Leu Lys Gly Gly Lys Thr Gly  
 180 185 190  
 Asp Lys Ala Val Val Lys Val Thr Glu Trp Pro Asp Lys Ala Lys Asn  
 195 200 205  
 Pro Ile Gly Gln Val Leu Asp Ile Leu Gly Lys Ala Gly Asp Asn Thr  
 210 215 220  
 Thr Glu Met His Ala Ile Leu Ala Glu Phe Gly Leu Pro Tyr Val Tyr  
 225 230 235 240  
 Pro Gln Ser Val Glu Lys Ala Ala Asp Lys Ile Pro Ala Glu Ile Ser  
 245 250 255  
 Ala Glu Glu Ile Ala Arg Arg Glu Asp Phe Arg Lys Val Thr Thr Phe  
 260 265 270  
 Thr Ile Asp Pro Lys Asp Ala Lys Asp Phe Asp Asp Ala Leu Ser Ile  
 275 280 285  
 Arg Pro Leu Lys Asp Gly Leu Trp Glu Val Gly Val His Ile Ala Asp  
 290 295 300  
 Val Thr His Tyr Val Lys Glu Gly Ser Ile Ile Asp Lys Glu Ala Glu  
 305 310 315 320  
 Lys Arg Ala Thr Ser Val Tyr Leu Val Asp Arg Thr Ile Pro Met Leu  
 325 330 335  
 Pro Glu Arg Leu Cys Asn Phe Ile Cys Ser Leu Arg Pro Asn Glu Glu  
 340 345 350  
 Lys Leu Ala Phe Ser Ala Ile Phe Asp Ile Thr Glu Lys Gly Glu Val  
 355 360 365  
 Arg Asp Ser Arg Ile Val His Thr Val Ile Glu Ser Asp Arg Arg Phe  
 370 375 380  
 Thr Tyr Glu Glu Ala Gln Gln Ile Ile Glu Thr Lys Glu Gly Asp Phe  
 385 390 395 400  
 Lys Asp Glu Ile Leu Met Leu Asp Thr Ile Ala Lys Ala Leu Arg Glu  
 405 410 415  
 Lys Arg Phe Thr Ala Gly Ala Ile Asn Phe Asp Arg Tyr Glu Val Lys  
 420 425 430  
 Phe Glu Ile Asp Glu Lys Gly Lys Pro Ile Ser Val Tyr Phe Lys Glu  
 435 440 445  
 Ser Lys Asp Ala Asn Lys Leu Val Glu Phe Met Leu Leu Ala Asn  
 450 455 460  
 Arg Thr Val Ala Glu Lys Ile Gly Lys Ala Pro Lys Gly Lys Pro  
 465 470 475 480  
 Lys Val Leu Pro Tyr Arg Ile His Asp Leu Pro Asp Pro Glu Lys Leu  
 485 490 495  
 Asp Asn Leu Ala Gln Phe Ile Ala Arg Phe Gly Tyr Arg Leu Arg Thr  
 500 505 510  
 Ser Gly Thr Lys Thr Asp Val Ser Lys Ser Ile Asn His Leu Leu Asp  
 515 520 525  
 Asp Ile Gln Gly Lys Lys Glu Glu Asn Leu Ile Glu Thr Val Ser Ile  
 530 535 540  
 Arg Ala Met Gln Lys Ala Arg Tyr Ser Thr His Asn Ile Gly His Tyr  
 545 550 555 560  
 Gly Leu Ala Phe Asp Tyr Tyr Thr His Phe Thr Ser Pro Ile Arg Arg  
 565 570 575  
 Phe Pro Asp Met Met Val His Arg Leu Val Thr Arg Tyr Met Asp Gly  
 580 585 590  
 Gly Arg Ser Val Ser Glu Thr Lys Tyr Glu Asp Leu Cys Asp His Ser  
 595 600 605  
 Ser Asn Met Glu Gln Ile Ala Ala Asn Ala Glu Arg Ala Ser Ile Lys

610	615	620
Tyr Lys Gln Val Glu Phe Met Ser Glu Arg Leu Gly Gln Thr Tyr Asp		
625	630	640
Gly Val Ile Ser Gly Val Thr Glu Trp Gly Leu Tyr Val Glu Leu Asn		
645	650	655
Glu Asn Lys Cys Glu Gly Met Ile Pro Ile Arg Asp Leu Asp Asp Asp		
660	665	670
Tyr Tyr Glu Phe Asp Glu Lys Asn Tyr Cys Leu Arg Gly Arg Arg Lys		
675	680	685
Asn Arg Ile Tyr Ser Leu Gly Asp Ala Ile Thr Val Lys Val Ala Arg		
690	695	700
Ala Asn Leu Glu Lys Lys Gln Leu Asp Phe Ala Leu Val Glu		
705	710	715

&lt;210&gt; 7161

&lt;211&gt; 409

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7161

Lys Ser Leu Met Ile Thr Met Tyr Arg Ile Tyr Met Tyr Leu Leu Ala		
1	5	10
Ala Cys Leu Leu Leu Gly Val Thr Ala Cys Glu Glu Gly Leu Gly		
20	25	30
Asn Glu Glu Thr Pro Phe Ala Pro Tyr Val Leu Ser Leu Gly Ile Asn		
35	40	45
Ser Asn Gly Thr Thr Thr Tyr Tyr Val Val Thr Ala Pro Glu Leu Met		
50	55	60
Ser Gly Thr Ile Asn Ala Val Ala Lys Gly Ile Glu Gln Asn Gly Tyr		
65	70	75
Arg Asp Tyr Glu Gln Ala Gly Gln Thr Val Phe Ser Ile Gly Gly Leu		
85	90	95
Gly Leu Thr Ser Ala Thr Gly Ile Val Arg Asp Ala Asn Gly Tyr Leu		
100	105	110
Thr Glu Arg Gly Asp Phe Val Phe Asn Ser Ser Leu Asn Ala Phe Thr		
115	120	125
Gln Met Asp Gly Gln Asn Met Ile Gly Leu Glu Leu Pro Ala Asn Lys		
130	135	140
Glu Ser Gly Asp Gln Met Thr Leu Tyr Thr Val Asn Ile Ser Asp Val		
145	150	155
Ser Ile Thr Ser Gln Val Lys Ala Pro Val Phe Pro Leu Asn Gln Leu		
165	170	175
Glu Trp Pro Ser Ile Thr Gly Met Cys Tyr Ser Glu Gly Asn Val Tyr		
180	185	190
Val Thr Tyr Phe Pro Met Asn Pro Ser Thr Phe Glu Thr Leu Tyr Thr		
195	200	205
Asp Thr Thr Phe Val Ala Val Tyr Ser Tyr Pro Asp Met Gln Phe Lys		
210	215	220
Thr Leu Met Lys Asp Thr Arg Thr Gly Pro Ala Gly Ser Trp Asn Ala		
225	230	235
Phe Asn Gly Ile Phe Lys Val Glu Ser Gly Asp Met Tyr Ile Met Ser		
245	250	255
Asn Ser Ala Ile Ala Asn Gly Phe Ser Gln Ser Thr Lys Asn Ala Ala		
260	265	270
Phe Leu Arg Ile Pro Lys Gly Glu Thr His Phe Asp Asp Tyr Tyr Phe		
275	280	285
Asp Phe Glu Thr Val Ser Gly Gly Leu Lys Pro Ala His Ile Lys Tyr		
290	295	300
Ile Gly Asn Gly Leu Val Phe Ala Glu Val Ser Ser Ile Val Arg His		

305	310	315	320												
Gln	Ser	Ala	Asp	Arg	Trp	Gly	Asp	Lys	Ser	Leu	Lys	Cys	Cys	Ile	Ile
325								330							335
Asp	Leu	Asn	Asn	Lys	Thr	Val	Arg	Asp	Ile	Lys	Glu	Ile	Pro	Val	His
340								345							350
Asn	Gly	Asp	Gly	Gly	Arg	Arg	Phe	Ala	Ala	Leu	Val	Asp	Gly	Gly	Tyr
355								360							365
Val	Tyr	Arg	Pro	Val	Thr	Thr	Ser	Glu	Gly	Thr	Tyr	Ile	Tyr	Gln	Val
370								375							380
Asp	Pro	Gln	Ala	Ala	Thr	Ala	Val	Arg	Gly	Ala	Lys	Val	Ser	Thr	Thr
385								390							400
Phe	Val	Gly	Gly	Phe	Phe	Arg	Leu	Asp							
405															

&lt;210&gt; 7162

&lt;211&gt; 286

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7162

Cys	Ala	Ala	Val	Gln	Pro	Arg	Gly	Glu	Asp	Leu	Arg	Thr	Leu	Asn	Ser
1				5						10					15
Met	Arg	Lys	Tyr	Leu	Ser	Phe	Ile	Leu	Leu	Ile	Gly	Leu	Thr	Leu	
															20
															25
Gln	Ala	Gln	Glu	Thr	Tyr	Lys	Thr	Val	Lys	Asp	Ile	Ser	Tyr	Ile	Pro
															35
Ala	Gly	Glu	Thr	Asp	Gly	Tyr	Arg	Lys	Glu	Arg	Cys	Lys	Leu	Asp	Val
															50
Tyr	Tyr	Pro	Val	Gly	Lys	Lys	Asp	Phe	Pro	Thr	Ile	Val	Trp	Phe	His
															65
															70
Gly	Gly	Gly	Leu	Glu	Gly	Gly	Lys	His	Val	Pro	Glu	Met	Phe	Met	
															85
Asn	Gln	Gly	Phe	Ala	Ile	Val	Ala	Val	Asn	Tyr	Arg	Leu	Ser	Pro	Lys
															100
															105
Ala	Gln	Asn	Pro	Ala	Tyr	Thr	Glu	Asp	Ala	Ala	Ala	Val	Ala	Trp	
															115
															120
Ala	Tyr	Lys	His	Ile	Glu	Glu	Tyr	Gly	Gly	Ser	Pro	Arg	Arg	Val	Phe
															130
															135
Val	Thr	Gly	His	Ser	Ala	Gly	Gly	Tyr	Leu	Thr	Leu	Met	Val	Gly	Leu
															145
															150
Asp	Lys	Ser	Tyr	Leu	Gln	Glu	Tyr	Gly	Val	Asp	Ala	Asp	Ser	Ile	Ala
															165
															170
Ala	Tyr	Leu	Pro	Ile	Ser	Gly	Gln	Thr	Val	Thr	His	Phe	Thr	Ile	Arg
															180
															185
Lys	Glu	Arg	Ser	Leu	Pro	Glu	Gly	Ile	Pro	Val	Ile	Asp	Gln	Tyr	Ala
															195
															200
Pro	Cys	Asn	Lys	Ala	Arg	Lys	Asp	Thr	Pro	Pro	Phe	Val	Leu	Ile	Thr
															210
															215
Gly	Asp	Arg	Asn	Leu	Glu	Met	Ala	Asp	Arg	Tyr	Glu	Glu	Asn	Ala	Leu
															225
															230
Leu	Ala	Ser	Val	Leu	Lys	Asn	Ile	Gly	Asn	Lys	Lys	Val	Ser	Leu	Tyr
															245
															250
Glu	Leu	Gln	Gly	Phe	Asp	His	Gly	Gln	Val	Tyr	Val	Pro	Gly	Cys	Cys
															260
															265
Leu	Val	Ala	Asn	Tyr	Ile	Arg	Asn	Phe	Ile	Ala	Asp	Gly	Arg		
															275
															280
															285

&lt;210&gt; 7163

&lt;211&gt; 64

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7163

Tyr	Pro	Asn	Val	Tyr	Asn	Tyr	Ile	Ser	Ile	Tyr	Leu	Tyr	His	Leu	Glu
1				5					10				15		
Tyr	Phe	Ile	Phe	Leu	Ala	Ile	Phe	Ser	Glu	Asn	Gly	Leu	Phe	Phe	Ile
				20				25				30			
Ser	Ser	Cys	Ile	Ser	Val	Pro	Met	Ser	Pro	Asp	Ser	Lys	Ala	His	Ile
				35			40			45					
Asn	Ile	Ser	Glu	Gly	Thr	Val	Ile	Leu	Leu	Phe	Thr	Lys	Tyr	Tyr	Lys
				50			55			60					

&lt;210&gt; 7164

<211> 206  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7164

Lys	Val	Asn	Val	Met	Glu	Thr	Asn	Asp	Ile	Lys	Glu	Thr	Trp	Lys	Ala
1				5					10				15		
Gly	Ile	Glu	Arg	Thr	Ile	Lys	Pro	Tyr	Pro	Glu	Glu	Arg	Leu	Asn	Glu
				20				25				30			
Met	Val	Val	Asn	Ser	Ala	Arg	Lys	Ser	Ile	Lys	Thr	Val	Tyr	Pro	Gly
				35			40			45					
Thr	Val	Phe	Arg	Leu	Val	Ile	Ile	Ala	Val	Ala	Val	Phe	Leu	Ile	Val
				50			55			60					
Ser	Gln	Phe	Val	Lys	Glu	Gln	Asn	Ala	Thr	Arg	Met	Tyr	Leu	Asp	Met
	65			70				75			80				
Gly	Ala	Leu	Ala	Val	Leu	Ser	Val	Ser	Tyr	Phe	Leu	Trp	Glu	Arg	Ser
				85			90			95					
Ala	Tyr	Lys	Met	Arg	Lys	Tyr	Thr	His	Gly	Met	Pro	Val	Lys	Glu	Trp
				100			105			110					
Leu	Glu	Tyr	Arg	Ile	Lys	Glu	Ile	Glu	Lys	Ser	Ile	Arg	Phe	Asn	Thr
				115			120			125					
Lys	Tyr	Asp	Trp	Ile	Val	Tyr	Thr	Cys	Ser	Phe	Leu	Ser	Ala	Ile	Gly
				130			135			140					
Phe	Tyr	Val	Phe	Tyr	Leu	Met	Ala	Thr	Asn	Val	Val	Pro	Gly	Ile	Leu
	145				150			155			160				
Asn	Val	Ile	Val	Ile	Pro	Leu	Gly	Met	Cys	Ile	Tyr	Leu	Ile	Ile	
				165			170			175					
Lys	Arg	Ser	Leu	Lys	Arg	Asn	Tyr	Arg	Arg	Thr	Leu	Gln	Glu	Leu	Lys
				180			185			190					
Glu	Leu	Tyr	Arg	Gln	Phe	Glu	Ile	Glu	Asp	Gln	Glu	Gly	Arg		
				195			200			205					

&lt;210&gt; 7165

<211> 239  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7165

Val	Val	Leu	Leu	Thr	Glu	Arg	Ile	Lys	Ala	Ser	Leu	Glu	Thr	Asn	Ser
1				5				10			15				
Val	Tyr	Thr	Ile	Ser	Ala	Pro	Asn	Phe	Leu	His	Ile	Arg	Arg	Lys	Ala
				20				25			30				
Gly	Ser	Val	Thr	Ser	Ser	Ile	Gly	Ala	Arg	Asn	Thr	Gly	Arg	Ser	Pro
				35			40			45					
Arg	Ser	Met	Trp	Pro	Ile	Phe	Ile	Phe	Leu	Arg	Phe	Ser	Ile	His	Tyr

50	55	60
Leu Ala Ala Lys Val Arg Lys Lys Pro Leu Pro	Leu His Leu Ile His	
65	70	75
Leu Phe Asn Trp Ile Glu Ile Met Lys Lys Arg	Leu Phe Ser Ile Ala	80
85	90	95
Leu Cys Leu Thr Phe Ile Leu Ser Ala Thr Ser	Val Ser Ala Gln Asp	
100	105	110
Ala Ala Tyr Arg Glu Ala Leu Ser Lys Met	Leu Glu Ala Ser Gly Ala	
115	120	125
Met Thr Thr Val Lys Ser Met Val Pro Gln Met	Ile Gly Met Met Lys	
130	135	140
His Thr Tyr Ser Asn Val Pro Asp Glu Phe Trp	Lys Asn Phe Glu Glu	
145	150	155
Gln Leu Ser Glu Lys Ala Asn Thr Gln Phe	Leu Asp Ile Tyr Val Ser	160
165	170	175
Ile Tyr His Arg Tyr Leu Thr Ile Ser Asp Leu	Lys Ile Thr Ala	
180	185	190
Phe Tyr Glu Ser Pro Val Gly Lys Lys Leu Ala	Glu Ser Thr Pro Val	
195	200	205
Met Thr Ala Glu Ala Met Glu Ala Gly Gln	Ile Gly Met Gly Ile	
210	215	220
Ala Lys Glu Ile Met Ala Asn Leu Lys Glu Lys	Gly Tyr Val Gln	
225	230	235

&lt;210&gt; 7166

&lt;211&gt; 234

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7166

Asn Gln Ser Phe Met Trp Leu Ser Asn Ser Ser	Val Gly Arg Lys Val	
1	5	10
Val Met Ser Val Thr Gly Ile Ala Leu Val	Leu Phe Leu Thr Phe His	15
20	25	30
Met Ala Met Asn Leu Val Ala Ile Ile Ser	Ala Glu Gly Tyr Asn Leu	
35	40	45
Val Cys Glu Phe Leu Gly Ala Asn Trp Tyr	Ala Leu Val Ala Thr Leu	
50	55	60
Gly Leu Ala Ala Leu Phe Val Ile His Ile	Ile Tyr Ala Phe Trp Leu	
65	70	75
Thr Ile Gln Asn Arg Ala Ala Arg Gly	Ser Glu Arg Tyr Ala Val Val	80
85	90	95
Asp Lys Pro Lys Thr Val Glu Trp Ala Ser	Gln Asn Met Leu Val Leu	
100	105	110
Gly Ile Ile Val Ile Leu Gly Leu Gly	Leu His Leu Phe Asn Phe Trp	
115	120	125
Ala Lys Met Gln Leu Pro Glu Leu Val His	Asn Met Gly Gly Val Ala	
130	135	140
Asp Thr Thr Tyr Ala Ala Asp Gly Val	Tyr His Ile Met Asn Thr Phe	
145	150	155
Ser Asn Pro Val Tyr Val Val Leu Tyr	Leu Val Trp Leu Gly Ala Leu	160
165	170	175
Trp Phe His Leu Thr His Gly Phe Trp Ser	Ser Met Gln Ser Leu Gly	
180	185	190
Trp Asn Asn Lys Ile Trp Ile Asn Arg Trp	Lys Cys Ile Ser Asn Ile	
195	200	205
Tyr Ser Thr Ile Val Val Val Cys Phe Ala	Leu Val Val Val Val Phe	
210	215	220
Phe Val Lys Ser Leu Ala Cys Gly Ala Cys		

225

230

<210> 7167  
<211> 132  
<212> PRT  
<213> B.fragilis

<400> 7167

Lys	Tyr	Asn	Leu	Lys	Leu	Leu	Gly	Met	Asn	Glu	Gln	Lys	Glu	Leu	Thr
1				5					10					15	
Lys	Ala	Glu	Leu	Gln	Ile	Met	Gln	Val	Leu	Trp	Gln	Lys	Glu	Asn	Ala
					20				25					30	
Phe	Val	Asn	Glu	Ile	Leu	Gln	Glu	Leu	Glu	Glu	Pro	Arg	Pro	Ala	Tyr
					35				40			45			
Asn	Thr	Val	Ser	Thr	Val	Leu	Arg	Val	Leu	Gln	Asn	Lys	Gly	Phe	Val
					50				55			60			
Ala	Tyr	Arg	Ser	Phe	Gly	Lys	Asn	Tyr	Gln	Tyr	Tyr	Pro	Leu	Val	Ser
					65				70			75			80
Lys	Glu	Ser	Tyr	Thr	Asn	Arg	Phe	Met	Asn	Arg	Val	Val	Asp	Asn	Phe
					85				90			95			
Phe	Ser	Gly	Ser	Val	Lys	Ala	Met	Val	Ser	Phe	Phe	Thr	Lys	Lys	Glu
					100				105			110			
Lys	Met	Ser	Val	Gln	Glu	Ile	Asp	Glu	Leu	Ile	Glu	Met	Leu	Lys	Glu
					115				120			125			
Asn	Lys	Lys	Glu												
					130										

<210> 7168  
<211> 291  
<212> PRT  
<213> B.fragilis

<400> 7168

Asn	Met	Asn	Lys	Lys	Asn	Leu	Leu	Ile	Ile	Ala	Val	Ser	Val	Leu	Val
1					5				10			15			
Leu	Ala	Leu	Ile	Gly	Leu	Thr	Tyr	Leu	Leu	Phe	Ser	Glu	Lys	Gln	Thr
					20				25			30			
Asn	Arg	Glu	Leu	Val	Gln	Glu	Phe	Gln	Leu	Asp	Lys	Glu	Asp	Leu	Glu
					35				40			45			
Asn	Glu	Tyr	Thr	Arg	Phe	Ala	Gln	Gln	Tyr	Asp	Glu	Leu	Lys	Leu	Thr
					50				55			60			
Val	Ser	Asn	Asp	Ser	Leu	Ala	Asp	Leu	Leu	Ala	Gln	Glu	Gln	Val	Lys
					65				70			75			80
Thr	Gln	Arg	Leu	Leu	Glu	Glu	Leu	Arg	Thr	Val	Lys	Ser	Ser	Asn	Ala
					85				90			95			
Thr	Glu	Ile	Arg	Arg	Leu	Lys	Lys	Glu	Leu	Ala	Thr	Leu	Arg	Lys	Val
					100				105			110			
Met	Ile	Gly	Tyr	Ile	Asn	Gln	Ile	Asp	Ser	Leu	Asn	Lys	Leu	Thr	Ala
					115				120			125			
Gln	Gln	Lys	Gln	Val	Ile	Ala	Glu	Val	Thr	Gln	Lys	Tyr	Asn	Ala	Ala
					130				135			140			
Ser	Arg	Gln	Ile	Asn	Asn	Leu	Ser	Glu	Glu	Lys	Lys	Asn	Leu	Asn	Gln
					145				150			155			160
Lys	Val	Thr	Leu	Ala	Ala	Gln	Leu	Asp	Ala	Thr	Asn	Ile	Trp	Ile	Glu
					165				170			175			
Pro	Arg	Asn	Lys	Arg	Gly	Lys	Lys	Ala	Lys	Lys	Val	Lys	Asp	Ile	Val
					180				185			190			
Lys	Leu	Ala	Ile	Gly	Phe	Thr	Ile	Val	Lys	Asn	Ile	Thr	Ala	Glu	Thr
					195				200			205			

Gly Glu Arg Thr Leu Tyr Ile Arg Ile Thr Lys Pro Asp Asn Asp Ala  
 210 215 220  
 Leu Thr Lys Ser Pro Ser Asn Thr Phe Pro Tyr Glu Asn Arg Thr Leu  
 225 230 235 240.  
 Thr Tyr Ser Ile Lys Lys Tyr Ile Glu Tyr Asn Gly Glu Glu Gln Thr  
 245 250 255  
 Ile Asn Val Phe Trp Asp Val Glu Glu Phe Leu Tyr Ala Gly Ala Tyr  
 260 265 270  
 Arg Val Asp Ile Phe Ala Asp Gly Thr Met Ile Gly Ser Gln Lys Phe  
 275 280 285  
 Thr Leu Asp  
 290

&lt;210&gt; 7169

&lt;211&gt; 1097

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7169

Tyr Lys Met Lys Lys Leu Phe Met Ser Ala Val Ala Leu Leu Phe Ala  
 1 5 10 15  
 Gly Ala Leu Trp Ala Gln Glu Asn Pro Leu Trp Met Arg His Cys Ala  
 20 25 30  
 Ile Ser Pro Asp Gly Thr Thr Ile Ala Phe Thr Tyr Lys Gly Asp Ile  
 35 40 45  
 Phe Thr Val Pro Val Ser Gly Gly Lys Ala Thr Gln Ile Thr Thr Asn  
 50 55 60  
 Pro Ala Phe Asp Thr Thr Pro Ile Trp Ser Pro Asp Ser Lys Gln Ile  
 65 70 75 80  
 Ala Phe Ala Ser Asp Arg Met Gly Ser Met Asp Val Phe Ile Val Ser  
 85 90 95  
 Lys Asp Gly Gly Glu Pro Arg Arg Leu Thr Thr Phe Ser Gly Gly Glu  
 100 105 110  
 Thr Pro Val Ala Phe Thr Asp Ala Gly His Ile Leu Phe Thr Ala Asp  
 115 120 125  
 Ile Met Pro Ser Thr Glu Asp Ala Gly Phe Pro Ser Asn Gly Gln Phe  
 130 135 140  
 Gln Gln Ile Tyr Gln Ile Pro Val Ser Gly Gly Arg Pro Val Met Phe  
 145 150 155 160  
 Ser Ser Met Pro Met Glu Cys Ile Ser Ile Asn Lys Glu Gly Thr Ile  
 165 170 175  
 Leu Tyr Gln Asp Lys Lys Gly Tyr Glu Asp Tyr Trp Arg Lys His Gln  
 180 185 190  
 Lys Ser Pro Ile Ala Arg Asp Ile Trp Met Leu Arg Pro Gly Gln Thr  
 195 200 205  
 Pro Arg Tyr Glu Lys Gln Thr Thr Phe Ile Gly Glu Asp Arg Glu Pro  
 210 215 220  
 Val Trp Ala Pro Asp Gly Lys Ser Phe Tyr Tyr Leu Ser Glu Glu Asn  
 225 230 235 240  
 Gly Thr Phe Asn Val Tyr Gln Arg Thr Pro Gly Ser Asp Thr Ser Lys  
 245 250 255  
 Gln Val Thr His His Lys Gln His Pro Val Arg Phe Leu Ser Met Ala  
 260 265 270  
 Ser Asn Gly Asn Leu Cys Tyr Gly Phe Asp Gly Glu Ile Tyr Thr Leu  
 275 280 285  
 Ala Pro Gly Gly Lys Pro Gln Lys Val Ser Val Lys Ile Leu Ser Asp  
 290 295 300  
 Arg Asn Asp Lys Asp Leu Ile Arg Gln Ile Lys Thr Ser Gly Ala Thr  
 305 310 315 320

Glu Met Ala Val Ser Pro Asp Gly Lys Glu Val Ala Phe Ile Leu Arg  
                   325                  330                  335  
 Gly Asp Val Tyr Val Thr Ser Val Glu Tyr Lys Thr Thr Lys Gln Val  
                   340                  345                  350  
 Thr Asn Thr Pro Cys Gln Glu Arg Gly Ile Asp Phe Ala Pro Asp Gly  
                   355                  360                  365  
 Arg Thr Leu Val Tyr Ala Ser Glu Arg Gly Gly Leu Trp Gln Leu Tyr  
                   370                  375                  380  
 Thr Ser Thr Ile Val Arg Lys Asp Glu Lys Gln Phe Thr Tyr Ala Thr  
                   385                  390                  395                  400  
 Glu Leu Lys Glu Glu Arg Leu Thr Asn Ser Asp Val Ala Ser Phe Asn  
                   405                  410                  415  
 Pro Lys Tyr Ser Pro Asp Gly Lys Glu Ile Ala Phe Leu Glu Asn Arg  
                   420                  425                  430  
 Thr Ala Ile Arg Val Ile Asn Leu Lys Thr Lys Lys Val Arg Thr Val  
                   435                  440                  445  
 Met Asp Ala Gln Tyr Gln Tyr Ser Tyr Ser Asp Gly Asp Gln Trp Phe  
                   450                  455                  460  
 Glu Trp Ser Pro Asp Ser Lys Trp Ile Leu Ser Glu Phe Ile Gly Ile  
                   465                  470                  475                  480  
 Gly Gly Trp Asn Asn Lys Asp Ile Val Leu Leu Asn Ala Asp Gly Lys  
                   485                  490                  495  
 Gly Glu Met His Asn Leu Thr Glu Ser Gly Tyr Ser Asp Gly Asn Ala  
                   500                  505                  510  
 Lys Trp Val Leu Gly Gly Lys Ala Met Val Trp Phe Ser Asp Arg Ala  
                   515                  520                  525  
 Gly Tyr Arg Ser His Gly Ser Trp Gly Ala Gln Tyr Asp Ala Tyr Ile  
                   530                  535                  540  
 Met Phe Phe Asp Val Asp Ala Tyr Asp Arg Phe Arg Met Asn Lys Glu  
                   545                  550                  555                  560  
 Asp Leu Ala Leu Leu Glu Ala Glu Lys Ala Glu Lys Ala Glu Lys  
                   565                  570                  575  
 Glu Lys Ala Glu Lys Lys Lys Glu Asn Lys Lys Asp Asp Lys Lys  
                   580                  585                  590  
 Lys Asp Ala Lys Glu Lys Asn Lys Lys Asp Gly Asp Glu Glu Lys Lys  
                   595                  600                  605  
 Glu Glu Val Lys Pro Leu Lys Phe Asp Leu Asp Asn Arg Phe Asp Arg  
                   610                  615                  620  
 Ile Val Arg Leu Thr Val Asn Ser Ser Phe Met Gly Asp Ala Val Leu  
                   625                  630                  635                  640  
 Thr Pro Lys Gly Asp Lys Leu Tyr Tyr Leu Ala Ala Phe Glu Ser Gly  
                   645                  650                  655  
 Tyr Asp Leu Trp Glu His Asp Leu Lys Glu Asn Ser Thr Lys Ile Leu  
                   660                  665                  670  
 Leu Lys Gly Val Gly Gly Ser Leu Leu Pro Asp Lys Lys Gly Glu  
                   675                  680                  685  
 Asn Ile Phe Met Cys Thr Gly Gly Met Lys Lys Ile Glu Ile Ala  
                   690                  695                  700  
 Gly Ser Lys Thr Thr Pro Ile Ala Phe Glu Ser Phe Asp Tyr Gln  
                   705                  710                  715                  720  
 Pro Gly Gly Glu Arg Ala Tyr Ile Phe Asp His Val Trp Gln Gln Val  
                   725                  730                  735  
 Asp Asp Lys Phe Tyr Val Lys Asp Leu Gln Gly Val Asp Trp Pro Leu  
                   740                  745                  750  
 Tyr Lys Lys Ser Tyr Glu Lys Phe Leu Pro Tyr Ile Asn Asn Asn Tyr  
                   755                  760                  765  
 Asp Phe Ala Glu Leu Leu Ser Glu Met Leu Gly Glu Leu Asn Ala Ser  
                   770                  775                  780  
 His Thr Gly Ala Arg Tyr Ser Gly Ala Gly Gly Ala Leu Ala Thr Ala

785	790	795	800
Ala Leu Gly Val Phe Tyr Asp Asp Thr Tyr Asn Gly Asp Gly Leu Lys			
805		810	815
Ile Lys Glu Ile Ile Glu Gln Gly Pro Phe Thr Leu Lys Lys Thr Asp			
820		825	830
Val Lys Pro Gly Cys Ile Ile Glu Lys Val Asp Gly Thr Leu Ile Lys			
835		840	845
Lys Gly Glu Asp Tyr Phe Pro Leu Phe Glu Gly Lys Val Gly Arg Lys			
850		855	860
Val Leu Leu Ser Val Tyr Asp Pro Ala Thr Lys Lys Arg Phe Glu Glu			
865		870	880
Thr Val Lys Ala Ile Ser Tyr Gly Ala Gln Arg Glu Leu Leu Tyr Lys			
885		890	895
Arg Trp Val Glu Arg Asn Arg Lys Lys Val Glu Glu Leu Ser Gly Gly			
900		905	910
Arg Leu Gly Tyr Val His Ile Lys Gly Met Asp Ser Gln Ser Phe Arg			
915		920	925
Lys Met Tyr Ser Glu Leu Leu Gly Arg Tyr Arg Asn Lys Glu Ala Val			
930		935	940
Val Val Asp Val Arg His Asn Gly Gly Trp Leu His Asp Asp Val			
945		950	960
Val Thr Leu Leu Ser Gly Lys Glu Tyr Gln Arg Phe Val Pro Arg Gly			
965		970	975
Gln Tyr Ile Gly Ser Asp Pro Phe Asn Lys Trp Leu Lys Pro Ser Cys			
980		985	990
Met Leu Val Cys Glu Asp Asn Tyr Ser Asn Ala His Gly Thr Pro Tyr			
995		1000	1005
Val Tyr Lys Thr Leu Gly Ile Gly Lys Leu Val Gly Thr Pro Val Ala			
1010		1015	1020
Gly Thr Met Thr Ala Val Trp Trp Glu Arg Gln Ile Asp Pro Ser Leu			
1025		1030	1035
Val Phe Gly Ile Pro Gln Val Gly Cys Met Asp Met Gln Gly Asn Tyr			
1045		1050	1055
Leu Glu Asn His Thr Leu Glu Pro Asp Val Leu Ile Tyr Asn Glu Pro			
1060		1065	1070
Ala Ala Ser Leu Lys Gly Glu Asp Ala Gln Leu Lys Ala Ala Val Asp			
1075		1080	1085
Cys Leu Leu Lys Glu Leu Pro Lys Lys			
1090		1095	

&lt;210&gt; 7170

&lt;211&gt; 731

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7170

Gly Met Ile Asp Phe Asp Tyr Ser Glu Trp Ala Ile Leu Arg Phe Ile			
1	5	10	15

Gly Ala Ser Phe Val Leu Trp Leu Cys Tyr Tyr Leu Leu Phe Asp Arg			
20	25	30	

Lys Ala Pro Phe Asn Gln Cys Arg Asn Tyr Leu Leu Phe Ser Val Leu			
35	40	45	

Leu Ala Gly Ala Val Ser Val Leu Arg Ile Pro Val Tyr Pro Val Glu			
50	55	60	

Val Val Lys Pro Val Lys Met Glu Gln Ile Val Val Ala Gln Glu Ala			
65	70	75	80

Gln Thr Asp Lys Val Ser Leu Met Gln Ile Asp Asn Asn Gly Ile Gln			
85	90	95	

Pro Asp Thr Leu Ala Thr Ala Met Leu Thr Asp Val Asn Glu Ala Val			
---	--	--	--

100	105	110
Thr His Gln Thr Glu Glu Glu Ile Val Glu Glu Pro Phe Tyr Val Ser		
115	120	125
Trp Asn Tyr Trp Gln Ile Ala Trp Ile Val Tyr Gly Ser Gly Val Phe		
130	135	140
Ile Leu Leu Val His Leu Leu Val Glu Met Val Arg Ile Trp Arg Leu		
145	150	155
Lys Arg Trp Gly Thr Cys Thr Thr Asp Ala Asp Gly Ile Cys Ile Val		
165	170	175
Arg Asn Asn Glu Val Val Ser Pro Phe Ser Phe Tyr Arg Met Ile Phe		
180	185	190
Ile Asn Arg Lys Leu Glu Gly Glu Val Leu Arg Val Val Leu Leu His		
195	200	205
Glu Lys Ala His Ile Arg Asn His His Tyr Arg Asp Thr Leu Phe Ile		
210	215	220
Glu Gly Leu Ser Ile Leu Cys Trp Phe Asn Pro Phe Val Trp Leu Val		
225	230	235
240		
Lys Arg Glu Leu Arg Ala Leu His Glu Phe Gln Val Asp Arg Cys Leu		
245	250	255
Leu Ser Gly Glu Ile Glu Leu Phe Glu Tyr Gln Ser Ile Leu Phe Glu		
260	265	270
Glu Leu Met Gly Tyr Ser Pro Lys Val Ala Asn Gly Phe His Asn Ser		
275	280	285
Leu Ile Lys Lys Arg Phe Ile Met Met Lys His Gln Tyr Lys Glu Arg		
290	295	300
Leu Ala Gly Val Arg Lys Ile Ala Leu Leu Pro Leu Cys Ile Gly Val		
305	310	315
320		
Leu Ala Leu Phe Ser Phe Thr Glu Asn Pro Val Leu Val Glu Pro Val		
325	330	335
Leu Pro Met Val Ser Val Thr Ile Lys Ala Glu Thr Pro Lys Val Val		
340	345	350
Leu Pro Glu Val Thr Val Asp Ser Ala Gly Asn Glu Lys Asp Phe Leu		
355	360	365
Leu Leu Asp Thr Pro Lys Ile Val His Tyr Val Gln Ser Arg Asp Ala		
370	375	380
His Ile Val Gln Ser Gly Ala Gly Gln Pro Leu Ala Gln Val Ser Ile		
385	390	395
400		
Phe Val Pro Lys Ala Leu Asp Thr Leu Ser Ala Glu Ser Ser Asp Gly		
405	410	415
Thr Phe Ser Gln Glu Gln Asn Ile Asn His Thr Val Asp Ile Asp Leu		
420	425	430
Arg Ala Asp Gln Val Val Leu Ser Arg Ala Pro Arg Lys Asn Asn Ala		
435	440	445
Tyr Val Arg Phe Ile Glu Arg Ser Lys Glu Asp Thr Arg Val Thr Leu		
450	455	460
Ala Ile Pro Ile His Tyr Asp Arg His Trp Leu Gln Phe Glu Lys Gly		
465	470	475
480		
Leu Ser Ile Val Asp Glu Asp Ser Lys Asp Val Tyr Arg Ile Arg Ser		
485	490	495
Val Thr Arg Gly Ile Glu Leu Asn Arg Val Tyr Trp Val Val Gly Gln		
500	505	510
Glu Gly Gln Met Leu Glu Phe Thr Leu Val Phe Pro Pro Leu Asp Arg		
515	520	525
Lys Val Lys Thr Val Ser Ile Arg Asp Cys Phe Pro Glu Glu Lys Gly		
530	535	540
Leu Thr Pro Pro Asn Gly Gly Ala Trp Thr Leu Asp Asn Leu Lys Val		
545	550	555
560		
Asp Asn Phe Gln Pro Thr Ala Val Arg Gln Ala Glu Tyr Asp Arg Glu		
565	570	575

Gly Arg Pro Leu Arg Ser Asp Lys Leu Glu Glu Val Thr Leu Asn Ala  
 580 585 590  
 Asn Gln Leu Ser Val Ser Ser Arg His Asn Gly Gly Arg Thr Gln Ile  
 595 600 605  
 Gln Lys Ile Glu Thr Leu Pro Asp Lys Thr Leu Val Val Leu Ser Val  
 610 615 620  
 Pro Ile His Tyr Asp Arg Asn Trp Leu Val Ile Asn Lys Gly Leu Cys  
 625 630 635 640  
 Ile Val Asp Cys Lys Thr Gly Asp Glu Tyr Pro Val Leu Glu Glu Ala  
 645 650 655  
 His Gly Ile Glu Met Asn Lys Leu Leu Trp Val Glu Gly Cys Gln Gly  
 660 665 670  
 Ser Ser Val Leu Leu Thr Leu Val Phe Pro Lys Leu Pro Lys Arg Val  
 675 680 685  
 Lys Thr Ile Asp Phe Tyr Asn Lys Tyr Pro Asp Ala Gly Ile Ile Ser  
 690 695 700  
 Pro Thr Asn Gly Ser Ser Trp Asn Trp Trp Lys Ile Lys Ile Lys Asp  
 705 710 715 720  
 Tyr Gln Lys Glu Pro Tyr Lys Arg Val Ile Leu  
 725 730

&lt;210&gt; 7171

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7171

Thr Ile Phe Gly Val Ser Ser Asn Lys Lys Ser Phe Ser Leu Pro Ala  
 1 5 10 15  
 Leu Ser Thr Val Thr Ser Gly Asn Thr Thr Phe Gly Val Ser Ala Phe  
 20 25 30  
 Ile Val Thr Asp Thr Ile Gly Asn Thr Gly Ser Thr Ser Thr Gly Phe  
 35 40 45  
 Ser Val Lys Glu Asn Lys Ala Asn Thr Pro Ile His Lys Gly Ser Asn  
 50 55 60  
 Ala Ile Leu Arg Thr Pro Ala Lys Arg Ser Leu Tyr  
 65 70 75

&lt;210&gt; 7172

&lt;211&gt; 317

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7172

Asn Ile Ser Ile Met Ser Lys Val Thr Val Val Gly Ala Gly Asn Val  
 1 5 10 15  
 Gly Ala Thr Cys Ala Asn Val Leu Ala Phe Asn Glu Val Ala Asp Glu  
 20 25 30  
 Val Val Met Leu Asp Val Lys Glu Gly Val Ser Glu Gly Lys Ala Met  
 35 40 45  
 Asp Met Met Gln Thr Ala Gln Leu Leu Gly Phe Asp Thr Thr Ile Val  
 50 55 60  
 Gly Cys Thr Asn Asp Tyr Ala Gln Thr Ala Asn Ser Asp Val Val Val  
 65 70 75 80  
 Ile Thr Ser Gly Ile Pro Arg Lys Pro Gly Met Thr Arg Glu Glu Leu  
 85 90 95  
 Ile Gly Val Asn Ala Gly Ile Val Lys Ser Val Ala Glu Asn Leu Leu  
 100 105 110  
 Lys Tyr Ser Pro Asn Ala Ile Ile Val Val Ile Ser Asn Pro Met Asp

115	120	125
Thr Met Thr Tyr Leu Ala Leu	Lys Ser Leu Gly Leu	Pro Lys Asn Arg
130	135	140
Val Ile Gly Met Gly Gly	Ala Leu Asp Ser Ser	Arg Phe Lys Tyr Phe
145	150	155
Leu Ser Gln Ala Leu Gly Cys Asn Ala Asn Glu Val Glu Gly	Met Val	160
165	170	175
Ile Gly Gly His Gly Asp Thr Thr Met Ile Pro Leu Ala Arg	Leu Ala	
180	185	190
Thr Tyr Lys Gly Gln Pro Val Ser Thr Leu Leu Ser Glu Glu Lys	Leu	
195	200	205
Asn Glu Val Val Ala Ser Thr Met Val Gly Gly	Ala Thr Leu Thr Lys	
210	215	220
Leu Leu Gly Thr Ser Ala Trp Tyr Ala Pro Gly Ala Ala Gly	Ala Tyr	
225	230	235
Val Val Glu Ser Ile Ile His Asn Gln Lys Lys Met Val Pro	Cys Ser	240
245	250	255
Val Met Leu Glu Gly Glu Tyr Gly Glu Ser Asp Leu Cys Ile	Gly Val	
260	265	270
Pro Val Ile Leu Gly Lys Asn Gly Ile Glu Lys Ile Val Glu	Leu Glu	
275	280	285
Leu Asn Ala Asp Glu Lys Ala Lys Phe Ala Ala Ser Ala Ala	Val	
290	295	300
His Lys Thr Asn Ala Ala Leu Lys Glu Val Gly Ala Leu		
305	310	315

&lt;210&gt; 7173

&lt;211&gt; 676

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7173

Arg Leu Ile Ile Leu Ile Leu Cys Ile Cys Ser Ser Leu Gln Met Gln			
1	5	10	15
Gly Ala Leu Ser Ala Leu Lys Gly Gly Lys Ser Asn Leu Ala Leu His			
20	25	30	
Leu Asp Gly Lys Asp Asn Asn Val Arg Thr Gly Met Gly Ile Leu Glu			
35	40	45	
Pro Ser Trp Thr Leu Glu Ser Trp Ile Lys Gly Asp Asp Cys Gln Trp			
50	55	60	
Asp Ser Leu Glu Val Ile Ile Gly Gly Glu Tyr Ser Glu Leu Asn			
65	70	75	80
Trp Val Asp Tyr Leu Pro Leu Val Val Lys Glu Gly Lys Ile His Ser			
85	90	95	
Ser Arg Ala Asn Leu Ser Ser Pro Gln Thr Leu Asp Asp Gln Trp His			
100	105	110	
His Val Ala Leu Thr Cys Asp Gly Lys Gln Thr Ile Leu Tyr Leu Asp			
115	120	125	
Gly Lys Gln Val Asp Lys Ala Asp Thr Ala Thr Ala Ile Leu Pro Gly			
130	135	140	
Ala Ile Gly Val His Asp Val Tyr Tyr Thr Phe Gly Gly Leu Ile Asp			
145	150	155	160
Glu Val Arg Val Trp Arg Ser Ala Leu Pro Glu Gln Thr Ile Arg Arg			
165	170	175	
Trp Met Asn Arg Pro Val Glu Ala Thr His Pro Ala Phe Lys Ser Leu			
180	185	190	
Trp Gly Tyr Tyr Asn Phe Asp Asp Leu Lys Asp Glu Thr Ser Val Asn			
195	200	205	
Trp Val Gly Lys Gly His Gln Ala Tyr His Ile Arg Asn Gly Arg Asn			

210	215	220
Lys	Tyr Asn Glu Lys Ala Pro Leu Ala His Ala Val Pro Asn Asp Asn	
225	230	235
Pro Ala Phe Lys Glu Phe Asp Gly Asn Gln Gln Leu Phe Asn Ala Val		240
245	250	255
Ile Ile Gln Ser Glu Trp Asp Ala Asp Gln Gly Ser Lys Asn Asp Gln		
260	265	270
Ala Leu Lys Leu Arg Ile Ala Val Gln Gly Ser Lys Asn Pro Leu Lys		
275	280	285
Leu Thr Glu Leu Lys Leu Asp Phe Thr Gly Thr Thr Asp Leu Ala Asp		
290	295	300
Ile Glu Gln Ile His Ile Tyr Ser Thr Gly Ser Glu Ala Arg Ser Thr		
305	310	315
Gln Arg Lys Glu Leu Phe Gly Asn Gly His Thr Pro Glu Gln Ser Leu		320
325	330	335
Thr Leu Arg Pro Thr His Gly Glu Ile Leu Leu Gln Pro Gly Ile		
340	345	350
Asn Tyr Phe Leu Leu Thr Phe Asp Val Arg Ser Lys Ala Thr Pro Gly		
355	360	365
His Thr Leu Tyr Ala Ser Val Pro Phe Phe Lys Leu Asn Gly Lys Lys		
370	375	380
Ile Ile Pro Gly Thr Ser Ala Glu Glu Val Arg Lys Gln Val Thr Cys		
385	390	395
Asn Asn Gln Thr Gln Ser Asn Ile Val Lys Val Leu Gln Trp Asn Ile		400
405	410	415
Trp His Gly Gly Ile His Leu Gly Asn Glu Gly Gln Gln Arg Val Leu		
420	425	430
Asp Leu Ile Arg Ser Ser Arg Ala Asp Val Ile Met Met Gln Glu Ala		
435	440	445
Tyr Gly Ile Gln Gln Met Leu Ala Asp Ser Leu Gly Tyr His Leu Lys		
450	455	460
Thr His Ser Leu Lys Asp Asn Leu Ala Met Tyr Ser Arg Phe Pro Leu		
465	470	475
Glu Ala Ile Ala Trp Arg Glu Pro Phe Lys Ser Asn Pro Ala Lys Ile		
485	490	495
Thr Leu Pro Asn Gly Lys Arg Ile Met Phe Val Asp Cys Trp Leu Arg		
500	505	510
Tyr Ala Tyr Arg Pro Glu Tyr Thr Ser Gly Tyr Ala Glu Lys Gly Leu		
515	520	525
Asp Pro Ser Val Trp Val Ala Glu Asp Ser Ile Leu Ala Leu Pro Asp		
530	535	540
Ile Arg Asn Ile Tyr Thr Lys Asp Ile Ala Pro Asn Leu Glu Thr Asp		
545	550	555
Met Pro Val Ile Val Thr Gly Asp Phe Asn Ser Cys Ser His Leu Asp		
565	570	575
Trp Thr Glu Arg Ala Lys Pro Leu His His Gly Tyr Gly Pro Val Ala		
580	585	590
Phe Pro Ala Ser Arg Tyr Met Leu Glu Asn Gly Phe Lys Asp Ser Phe		
595	600	605
Arg Glu Lys Asn Pro Asp Glu Val Ala Tyr Gln Gly Gly Thr Val Ala		
610	615	620
Ala Ile Tyr Gly Gln Met Gln Met Ser Arg Ile Asp Phe Ile Tyr Tyr		
625	630	635
Lys Gly Gly Leu Lys Val Leu Ser Ser Lys Ile Val Arg Thr Ala Pro		640
645	650	655
Glu Ile Asp Tyr Val Trp Ala Ser Asp His Ala Ala Val Leu Thr Val		
660	665	670
Phe Glu Val Glu		
675		

<210> 7174  
<211> 762  
<212> PRT  
<213> B.*fragilis*

<400> 7174  
 Cys Met Thr Lys Arg Thr Cys Gln Phe Pro Lys His Thr Cys Leu Arg  
 1 5 10 15  
 Glu Ile Asn Phe Leu Lys Ile Ala Gly Ile Ser Leu Leu Leu Phe Cys  
 20 25 30  
 Thr Thr Ser Gln Ile Ala Val Ala Asp Ser Tyr Glu Lys Asn Ala Val  
 35 40 45  
 Thr Ala Thr Gln Gln Ser Lys Thr Glu Lys Ile Thr Gly Lys Ile Val  
 50 55 60  
 Asp Glu Ser Gly Glu Ala Ile Ile Gly Ala Ser Val Lys Val Gln Gly  
 65 70 75 80  
 Ser Thr Ile Gly Thr Ile Thr Asn Met Glu Gly Glu Phe Met Ile Pro  
 85 90 95  
 Asn Val Pro Asn Lys Ala Val Leu Glu Ile Ser Tyr Ile Gly Tyr Lys  
 100 105 110  
 Pro Leu Glu Val Ala Val Gly Lys Ser Lys Asp Leu Arg Ile Thr Met  
 115 120 125  
 Glu Glu Asp Thr Lys Thr Leu Asp Glu Val Ile Val Val Gly Tyr Gly  
 130 135 140  
 Thr Thr Ser Lys Arg Lys Thr Thr Ala Ala Ile Ala Ser Val Asn Thr  
 145 150 155 160  
 Glu Asp Ile Ile Lys Ala Pro Thr Ala Asn Ile Thr Gln Ser Leu Ala  
 165 170 175  
 Gly Arg Ala Pro Gly Leu Leu Val Thr Thr Ser Gly Gly Gly Leu Asn  
 180 . 185 190  
 Asn Phe Ser Ser Val Ser Ile Arg Gly Gly Thr Pro Leu Tyr Val  
 195 200 205  
 Ile Asp Asp Val Ile Ser Glu Glu Arg Asp Phe Arg Asn Leu Asn Ala  
 210 215 220  
 Glu Asp Ile Asp Gln Ile Thr Ile Leu Lys Asp Ala Ala Ser Thr Ala  
 225 230 235 240  
 Val Tyr Gly Ala Arg Ala Ala Asn Gly Ile Val Met Ile Val Thr Lys  
 245 250 255  
 Gln Gly Lys Ala Gly Lys Met Ser Val Asn Tyr Asn Phe Asn Tyr Asn  
 260 265 270  
 Trp Ser Gln Pro Ala Asn Met Pro Asn Lys Leu Asp Ala His Asp Ala  
 275 280 285  
 Ala Phe Tyr Lys Asn Met Ser Met Thr Asn Asp Gly Leu Ala Pro Ala  
 290 295 300  
 Tyr Thr Asp Asp Glu Leu Glu Leu Phe Arg Asn Gly Ser Asp Pro Arg  
 305 310 315 320  
 Arg Tyr Pro Asn Thr Asp Trp Gln Lys Leu Cys Leu Lys Asn Ser Ala  
 325 330 335  
 Pro Glu Met Gln His Thr Leu Thr Val Thr Gly Gly Ser Glu Lys Ile  
 340 345 350  
 Lys Ala Tyr Thr Ser Leu Gly Phe Tyr Asp Gln Lys Ser Leu Tyr Lys  
 355 360 365  
 Phe Asp Val Asn Ser Phe Lys Arg Tyr Asn Phe Arg Thr Asn Ile Val  
 370 375 380  
 Ala Asp Phe Lys Glu Ile Gly Leu Lys Val Thr Ser Ser Ile Glu Ala  
 385 390 395 400  
 Tyr Lys Thr Asp Leu Arg Ser Pro Asn Ala Lys Ser Gly Asp Ser Tyr  
 405 410 415

Tyr His Thr Trp Gly His Ile Gln Asn Lys Ala Pro Trp Glu Ile Ala  
           420                  425                  430  
 Tyr Asn Pro Asn Gly Gln Ile Phe Asn Thr Pro Asp Asn Pro Leu Met  
           435                  440                  445  
 Glu Ile Ser Pro Asp Ala Gly Tyr Thr Lys Asn Glu Asn Leu Ser Ala  
           450                  455                  460  
 Ile Ala Asn Leu Ala Leu Glu Trp Ser Val Pro Tyr Val Pro Gly Leu  
           465                  470                  475                  480  
 Arg Leu Lys Ala Leu Gly Asn Tyr Arg Ile Asn Asn Asp Lys Ser Lys  
           485                  490                  495  
 Ser Trp Lys Lys Ser Pro Leu Ala Tyr Asp Trp Asp Gly Asn Pro Asn  
           500                  505                  510  
 Asp Pro Gly Lys Pro Ser Leu Ser Lys Ser Tyr Ser Asn Trp Ser Ser  
           515                  520                  525  
 Tyr Thr Val Gln Gly Phe Ala Asn Tyr Asp Arg Thr Phe Asn Gln Val  
           530                  535                  540  
 His Thr Ile Ser Ala Thr Ala Gly Ile Glu Ala Tyr Lys Leu Phe Lys  
           545                  550                  555                  560  
 Asp Asp Ala Ser Leu Ser Arg Glu Glu Tyr Leu Leu Asp Val Asp Gln  
           565                  570                  575  
 Ile Gly Ala Gly Pro Val Ser Thr Ala Lys Asn Ser Ser Ser Glu Gly  
           580                  585                  590  
 Glu Glu Ala Arg Ala Gly Val Val Ala Arg Leu Lys Tyr Asp Tyr Ala  
           595                  600                  605  
 Ser Lys Tyr Val Ala Glu Ala Ser Leu Arg Tyr Asp Gly Ser Asp Asn  
           610                  615                  620  
 Phe Pro Arg Gly Lys Arg Trp Gly Thr Phe Tyr Ala Gly Ser Leu Ala  
           625                  630                  635                  640  
 Trp Val Ile Ser Glu Glu Ser Phe Trp Gln Thr Leu Lys Asp Arg His  
           645                  650                  655  
 Ile Phe Asp Gln Phe Lys Val Arg Ala Ser Tyr Gly Glu Ile Gly Ser  
           660                  665                  670  
 Asp Ala Ile Gly Arg Tyr Ala Tyr Leu Gln Ser Tyr Gly Leu Asn Asp  
           675                  680                  685  
 Arg Gly Tyr Leu Leu Asn Gly Ser Trp Tyr Pro Gly Phe Ser Glu Gly  
           690                  695                  700  
 Ala Leu Val Ser Lys Asp Ile Thr Trp Tyr Thr Thr Arg Asp Phe Asn  
           705                  710                  715                  720  
 Ile Gly Phe Asp Phe Gly Ser Leu Asn Asn Arg Leu Ser Gly Ser Val  
           725                  730                  735  
 Asp Tyr Phe Arg Lys Ser Thr Lys Gly Tyr Leu Thr Ser Pro Ser Ala  
           740                  745                  750  
 Val Ala Tyr Thr Asp Pro Leu Gly Ser Leu  
           755                  760

&lt;210&gt; 7175

&lt;211&gt; 60

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7175

Lys Arg Ala Leu Phe Leu Lys Asp Ile Ile His Leu Leu Phe Lys Asp  
 1              5                  10                  15  
 Ile Ile Ile Ile Leu Ile Ser Thr Ser Arg Phe Glu Ile Lys Arg Lys  
           20                  25                  30  
 Asn Gln Pro Asn Asp Thr Ile Pro Gln Tyr Gly Asp Glu Ile Asn His  
           35                  40                  45  
 Thr Lys Asn Glu Ile Cys Val Lys Asn Gly Ile Ile  
           50                  55                  60

<210> 7176  
<211> 62  
<212> PRT  
<213> B.fragilis

<400> 7176

Leu	Tyr	Ser	Gly	Lys	Leu	Asn	Asn	Ser	Ile	Leu	Tyr	Ala	Asn	Phe	Ile
1				5					10					15	
Leu	Cys	Met	Ile	Tyr	Phe	Val	Ser	Val	Leu	Gly	Asn	Cys	Ile	Val	Arg
				20				25					30		
Leu	Ile	Phe	Ser	Phe	Asp	Leu	Glu	Ala	Arg	Gly	Thr	Tyr	Gln	Asn	Asp
				35			40				45				
Asn	Tyr	Val	Phe	Glu	Glu	Gln	Met	Asp	Asp	Ile	Phe	Gln	Glu		
				50			55				60				

<210> 7177  
<211> 227  
<212> PRT  
<213> B.fragilis

<400> 7177

Gln	Val	Ala	Val	Lys	Ala	Lys	Ser	Ile	Phe	Ala	Asp	Lys	Thr	Val	Pro
1				5					10				15		
Lys	Thr	Thr	Val	Val	Ser	Tyr	Pro	Ile	Tyr	His	Ile	Glu	Asn	Ile	Val
				20				25				30			
Lys	Pro	Val	Ser	Lys	Gly	Pro	His	Ala	Lys	Gln	Val	Ile	Phe	Leu	Ser
				35			40				45				
Ala	Asp	Ala	Phe	Gly	Val	Leu	Pro	Pro	Val	Ser	Ile	Leu	Asn	Pro	Glu
				50			55				60				
Gln	Ala	Gln	Tyr	Tyr	Phe	Leu	Ser	Gly	Phe	Thr	Ala	Lys	Leu	Ala	Gly
				65			70			75			80		
Thr	Glu	Arg	Gly	Ile	Thr	Glu	Pro	Thr	Pro	Thr	Phe	Ser	Ala	Cys	Phe
				85			90				95				
Gly	Ala	Ala	Phe	Leu	Ser	Leu	His	Pro	Thr	Lys	Tyr	Ala	Glu	Glu	Leu
				100			105				110				
Val	Lys	Lys	Met	Glu	Met	Thr	Gly	Ala	Lys	Ala	Tyr	Leu	Val	Asn	Thr
				115			120				125				
Gly	Trp	Asn	Gly	Ser	Gly	Lys	Arg	Ile	Ser	Ile	Lys	Asp	Thr	Arg	Gly
				130			135				140				
Ile	Ile	Asp	Ala	Ile	Leu	Asp	Gly	Ser	Ile	Asp	Lys	Ala	Pro	Thr	Lys
				145			150			155			160		
Val	Ile	Pro	Phe	Phe	Asp	Phe	Val	Val	Pro	Thr	Glu	Leu	Pro	Gly	Val
				165			170				175				
Asp	Pro	Lys	Ile	Leu	Asp	Pro	Arg	Asp	Thr	Tyr	Ala	Asp	Pro	Ala	Gln
				180			185				190				
Trp	Asn	Glu	Lys	Ala	Lys	Asp	Leu	Ala	Gly	Arg	Phe	Ile	Lys	Asn	Phe
				195			200				205				
Ala	Lys	Phe	Thr	Gly	Asn	Glu	Ala	Gly	Lys	Lys	Leu	Val	Ala	Ala	Gly
				210			215				220				
Pro	Lys	Leu													
		225													

<210> 7178  
<211> 71  
<212> PRT  
<213> B.fragilis

<400> 7178

Gly Leu Cys Ser Phe Phe Leu Val Ile Tyr Val Ser Phe His Thr Phe  
 1 5 10 15  
 Pro Val Lys Ile Pro Phe Thr Ser Ser Glu Ser Leu His Pro Leu Thr  
 20 25 30  
 Lys Gly Ser Ile Lys Ser Asn Asn Asn Lys Tyr Leu Tyr Phe Ile Phe  
 35 40 45  
 Phe Tyr Phe Phe Ile Pro Phe Leu Ile Ser Asn Ala Ser Ile Val Gly  
 50 55 60  
 Ser Cys Pro Leu Lys Arg Leu  
 65 70

&lt;210&gt; 7179

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7179

Glu Val Glu Pro Val Glu Lys Asn His Ile Ala Cys Ser Asn Arg Arg  
 1 5 10 15  
 Arg Val Arg Thr Ser Arg Leu His Arg Pro Pro Arg Ser Arg His Arg  
 20 25 30  
 Phe Val Trp His Cys Arg Thr Asn Arg Ser Ala Ile His Arg Leu Arg  
 35 40 45  
 Asn Asn Arg Ser Gly Cys Asp Ser Gly Cys Cys Phe Arg Ser Val Arg  
 50 55 60  
 Thr Ser Phe Arg Pro Arg Gln Arg Ile Leu Arg Pro Phe Ile Thr Ser  
 65 70 75 80  
 Asn Ser Gly Ser Gln Ser Arg His Leu Phe Pro Val Ser Ile Asp Arg  
 85 90 95  
 Arg Ser Thr Arg Arg Ser Ile Arg Leu Pro Tyr Gly Tyr Tyr Ser  
 100 105 110  
 Thr Met Lys Thr Asn Tyr His Thr His Thr Arg Cys Met His Ala  
 115 120 125  
 Val Gly Asp Asp Glu Asp Tyr Val Arg Ser Ala Ile Lys Gly Gly Phe  
 130 135 140  
 Gln Glu Leu Gly Phe Ser Asp His Gly Pro Trp Lys Tyr His Thr Asp  
 145 150 155 160  
 Phe Val Ser Asp Ile Arg Met Leu Pro Glu Asp Leu Pro Glu Tyr Ile  
 165 170 175  
 Glu Ser Ile Arg Ala Leu Lys Glu Lys Tyr Arg Asn Gln Ile Ser Ile  
 180 185 190  
 Lys Ile Gly Leu Glu Tyr Glu Tyr Phe Pro Glu Tyr Ile His Trp Leu  
 195 200 205  
 Lys Glu Ile Ile Lys Glu Tyr Arg Leu Asp Tyr Ile Leu Phe Gly Asn  
 210 215 220  
 His His Tyr His Thr Asp Glu Lys Phe Pro Tyr Phe Gly His His Thr  
 225 230 235 240  
 Thr Asn Arg Asp Met Leu Asp Leu Tyr Glu Glu Ser Thr Ile Glu Gly  
 245 250 255  
 Met Glu Ser Gly Leu Phe Ala Tyr Leu Ala His Pro Asp Leu Phe Met  
 260 265 270  
 Arg Ser Tyr Pro Glu Phe Asp Lys His Cys Ile Ser Val Ser Arg His  
 275 280 285  
 Ile Cys Arg Ala Ala Ala Arg Leu His Ile Pro Leu Glu Tyr Asn Ile  
 290 295 300  
 Gly Tyr Val Ala Ile Asn Glu Ala Arg Gly Ile Thr Thr Tyr Pro Cys  
 305 310 315 320  
 Pro Gln Phe Trp His Ile Ala Ala Asn Glu Gly Cys Thr Ala Ile Ile  
 325 330 335

Gly Leu Asp Ala His Asn Asn Leu Asp Leu Glu Asn Pro Thr Tyr Tyr  
 340 345 350  
 Asp Arg Ala Cys Gln Glu Leu Asn Ala Leu Lys Met Pro Val Ile Asp  
 355 360 365  
 Thr Ile Pro Phe Leu Lys Tyr  
 370 375

&lt;210&gt; 7180

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7180

Ile Met Ala Thr Ala Tyr His Asn Leu Ser Asp Tyr Asp Phe Asn Ser  
 1 5 10 15  
 Val Pro Asn Ala Glu Glu Met Lys Phe Gly Ile Val Val Ser Glu Trp  
 20 25 30  
 Asn Ala Asn Ile Thr Gly Ala Leu Leu Asp Gly Ala Val Lys Thr Leu  
 35 40 45  
 Lys Lys His Gly Ala Lys Glu Glu Asn Ile Leu Val Lys Thr Val Pro  
 50 55 60  
 Gly Ser Phe Glu Leu Thr Phe Gly Ala Asn Gln Met Met Glu Asn Ser  
 65 70 75 80  
 Asp Ile Asp Ala Ile Ile Ile Gly Cys Val Ile Lys Gly Asp Thr  
 85 90 95  
 Pro His Phe Asp Tyr Val Cys Met Gly Val Thr Gln Gly Val Ala Gln  
 100 105 110  
 Leu Asn Ala Thr Gly Asp Ile Pro Val Ile Tyr Gly Leu Ile Thr Thr  
 115 120 125  
 Asn Thr Met Glu Gln Ala Glu Asp Arg Ala Gly Lys Leu Gly Asn  
 130 135 140  
 Lys Gly Asp Glu Cys Ala Ile Thr Ala Ile Lys Met Ile Asp Phe Val  
 145 150 155 160  
 Trp Ser Leu Asn Lys  
 165

&lt;210&gt; 7181

&lt;211&gt; 395

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7181

Arg His Leu Phe Leu Phe Cys Asp Leu Lys Pro Arg Lys Ser Phe Tyr  
 1 5 10 15  
 Phe Cys Asn Gln Thr Gln Cys Ala His Met Ile Leu Lys Arg Ile Ser  
 20 25 30  
 Ile Leu Asn Tyr Lys Asn Leu Glu Gln Val Glu Leu Asn Phe Ser Ala  
 35 40 45  
 Lys Leu Asn Cys Phe Phe Gly Gln Asn Gly Met Gly Lys Thr Asn Leu  
 50 55 60  
 Leu Asp Ala Val Tyr Phe Leu Ser Phe Cys Lys Ser Ala Gly Asn Pro  
 65 70 75 80  
 Ile Asp Ser Gln Asn Ile Arg His Glu Gln Asp Phe Phe Val Ile Gln  
 85 90 95  
 Gly Phe Tyr Glu Ala Met Asp Gly Thr Pro Glu Glu Ile Tyr Cys Gly  
 100 105 110  
 Met Lys Arg Arg Ser Lys Lys Gln Phe Lys Arg Asn Lys Lys Glu Tyr  
 115 120 125  
 Ser Arg Leu Ser Asp His Ile Gly Phe Ile Pro Leu Val Met Val Ser

130	135	140
Pro Ala Asp Ser Glu Leu Ile Ala Gly Gly Ser	Asp Glu Arg Arg Arg	
145	150	155
Phe Met Asp Val Val Ile Ser Gln Tyr Asp Lys	Glu Tyr Leu Asp Ala	160
165	170	175
Leu Ile Arg Tyr Asn Lys Ala Leu Val Gln Arg	Asn Thr Leu Leu Lys	
180	185	190
Ser Glu Gln Pro Ile Glu Glu Leu Phe Leu Val	Trp Glu Glu Met	
195	200	205
Met Ala Gln Ala Gly Glu Val Val Phe Arg Lys	Glu Ala Phe Ile	
210	215	220
Ser Glu Phe Ile Pro Ile Phe Gln Ser Phe Tyr	Ser Tyr Ile Ser Gln	
225	230	235
Asp Lys Glu Gln Val Gly Leu Thr Tyr Glu	Ser His Ala Arg Asn Ala	240
245	250	255
Ser Leu Leu Glu Val Leu Lys Glu	Ser Arg Val Arg Asp Lys Ile Met	
260	265	270
Gly Tyr Ser Leu Arg Gly Ile His Lys Asp Glu	Leu Asn Met Leu Leu	
275	280	285
Gly Asp Phe Pro Ile Lys Arg Glu Gly Ser Gln	Gly Gln Asn Lys Thr	
290	295	300
Tyr Leu Val Ala Leu Lys Leu Ala Gln Phe Asp	Phe Leu Lys Arg Thr	
305	310	315
Gly Ser Thr Val Pro Leu Leu Leu Asp Asp	Ile Phe Asp Lys Leu	320
325	330	335
Asp Ala Ser Arg Val Glu Gln Ile Val Lys	Leu Val Ala Gly Asp Asn	
340	345	350
Phe Gly Gln Ile Phe Ile Thr Asp Thr Asn Arg	Glu His Leu Asp Arg	
355	360	365
Ile Leu Tyr Lys Val Gly Ser Asp Tyr Lys Met	Phe Arg Val Glu Ser	
370	375	380
Gly Ala Ile Asn Glu Met Glu Glu Lys Glu Arg		
385	390	395

<210> 7182  
<211> 366  
<212> PRT  
<213> B.fragilis

<400> 7182		
Lys His Phe Leu Thr Phe Ala Pro His Ser Asn Glu Thr Asn Ala Asn		
1	5	10
Leu Glu Lys Tyr Leu Asn Lys Tyr Tyr Lys Thr Leu Lys Ser Leu Asn		15
20	25	30
Lys Met Ile Lys Val Gly Ile Asn Gly Phe Gly Arg Ile Gly Arg Met		
35	40	45
Val Phe Arg Ala Ala Val Lys Asn Phe Gly Asn Asp Ile Gln Ile Val		
50	55	60
Gly Ile Asn Asp Leu Leu Asp Ala Glu Tyr Leu Ala Tyr Met Leu Lys		
65	70	75
80		
Tyr Asp Ser Val His Gly Arg Phe Glu Gly Glu Val Ala Val Glu Asp		
85	90	95
Gly Ala Leu Ile Val Asn Gly Asn Lys Ile Arg Leu Thr Ala Glu Met		
100	105	110
Asp Pro Ala Asn Leu Lys Trp Asn Glu Val Asp Ala Asp Val Val Val		
115	120	125
Glu Ser Thr Gly Phe Phe Leu Thr Asp Glu Thr Ala Arg Lys His Ile		
130	135	140
Gln Ala Gly Ala Lys Lys Val Ile Met Ser Ala Pro Ser Lys Asp Ser		

145	150	155	160
Thr Pro Met Phe Val Tyr Gly Val Asn His	Val Asn His	Thr Ser Tyr Ala Gly Gln	
165	170	175	
Asp Ile Ile Ser Asn Ala Ser Cys Thr Thr Asn Cys	Leu Ala Pro Ile		
180	185	190	
Ala Lys Val Leu Asn Asp Lys Phe Gly Ile Val Lys	Gly Leu Met Thr		
195	200	205	
Thr Val His Ala Ala Thr Ala Thr Gln Lys Thr Val	Asp Gly Pro Ser		
210	215	220	
Lys Lys Asp Trp Arg Gly Gly Arg Gly Ile Leu Glu	Asn Ile Ile Pro		
225	230	235	240
Ser Ser Thr Gly Ala Ala Lys Ala Val Gly Lys Val	Leu Pro Val Leu		
245	250	255	
Asn Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro	Thr Ser Asp Val		
260	265	270	
Ser Val Val Asp Leu Thr Val Val Leu Glu Lys Ala	Ala Thr Met Ala		
275	280	285	
Glu Ile Asn Ala Ala Met Lys Glu Ala Ser Glu	Gly Glu Leu Lys Gly		
290	295	300	
Ile Leu Gly Tyr Thr Glu Asp Ala Val Val Ser	Thr Asp Phe Arg Gly		
305	310	315	320
Cys Ala Asn Thr Ser Ile Tyr Asp Ser Lys Ala Gly	Ile Ser Leu Asp		
325	330	335	
Ser Asn Phe Ala Lys Val Val Ser Trp Tyr Asp Asn Glu	Trp Gly Tyr		
340	345	350	
Ser Asn Lys Val Cys Glu Met Ala Arg Val Ile Ala	Ala Lys		
355	360	365	

&lt;210&gt; 7183

&lt;211&gt; 517

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7183

Phe Cys Ala Lys Phe Ile Thr Tyr Leu Tyr Met Gln	Glu Lys Ile Ile		
1	5	10	15
Ile Leu Asp Phe Gly Ser Gln Thr Thr Gln Leu Ile	Gly Arg Arg Val		
20	25	30	
Arg Glu Leu Asp Thr Tyr Cys Glu Ile Val Pro	Tyr Asn Lys Phe Pro		
35	40	45	
Lys Gly Asp Glu Thr Val Lys Gly Val Ile Leu Ser	Gly Ser Pro Phe		
50	55	60	
Ser Val Tyr Asp Glu Ser Ala Phe Lys Val Asp	Leu Ser Glu Ile Arg		
65	70	75	80
Gly Lys Tyr Pro Ile Leu Gly Ile Cys Tyr Gly	Ala Gln Phe Met Ala		
85	90	95	
Tyr Thr Asn Gly Lys Val Glu Pro Ala Gly Thr Arg	Glu Tyr Gly		
100	105	110	
Arg Ala His Leu Thr Ser Phe Cys Lys Asp Asn	Val Leu Phe Lys Gly		
115	120	125	
Val Arg Glu Gly Thr Gln Val Trp Met Ser His	Gly Asp Thr Ile Thr		
130	135	140	
Ala Ile Pro Glu Asn Phe Lys Thr Ile Ala Ser	Thr Asp Lys Val Ala		
145	150	155	160
Ile Ala Ala Tyr Gln Val Glu Gly Glu Gln Val	Trp Gly Val Gln Phe		
165	170	175	
His Pro Glu Val Phe His Ser Glu Asp Gly Thr Gln	Met Leu Arg Asn		
180	185	190	
Phe Val Val Asp Val Cys Gly Cys Lys Gln Asp Trp	Ser Pro Ala Ser		

195	200	205
Phe Ile Glu Ser Thr Val Ala Glu Leu Lys Ala Gln	Leu Gly Asp Asp	
210	215	220
Lys Val Val Leu Gly Leu Ser Gly Gly Val Asp Ser	Ser Val Ala Ala	
225	230	235
Val Leu Leu Asn Arg Ala Ile Gly Lys Asn Leu	Thr Cys Ile Phe Val	
245	250	255
Asp His Gly Met Leu Arg Lys Asn Glu Phe Lys Asn	Val Met His Asp	
260	265	270
Tyr Glu Cys Leu Gly Leu Asn Val Ile Gly Val Asp	Ala Ser Glu Lys	
275	280	285
Phe Phe Ser Glu Leu Glu Gly Val Thr Glu Pro	Glu Arg Lys Arg Lys	
290	295	300
Ile Ile Gly Lys Gly Phe Ile Asp Val Phe Asp Glu	Glu Ala His Lys	
305	310	315
Leu Lys Asp Val Lys Trp Leu Ala Gln Gly Thr	Ile Tyr Pro Asp Cys	
325	330	335
Ile Glu Ser Leu Ser Ile Thr Gly Thr Val Ile Lys	Ser His His Asn	
340	345	350
Val Gly Gly Leu Pro Glu Lys Met Asn Leu Lys Leu	Cys Glu Pro Leu	
355	360	365
Arg Leu Leu Phe Lys Asp Glu Val Arg Arg Val	Gly Arg Glu Leu Gly	
370	375	380
Met Pro Glu His Leu Ile Thr Arg His Pro Phe Pro	Gly Pro Gly Leu	
385	390	395
Ala Val Arg Ile Leu Gly Asp Ile Thr Pro Glu Lys	Val Arg Ile Leu	
405	410	415
Gln Asp Ala Asp Asp Ile Phe Ile Gln Gly Leu	Arg Asp Trp Gly Leu	
420	425	430
Tyr Asp Gln Val Trp Gln Ala Gly Val Ile Leu	Leu Pro Val Gln Ser	
435	440	445
Val Gly Val Met Gly Asp Glu Arg Thr Tyr Glu	Arg Ala Val Ala	
450	455	460
Arg Ala Val Thr Ser Thr Asp Ala Met Thr Ala	Asp Trp Ala His Leu	
465	470	475
Pro Tyr Glu Phe Leu Gly Lys Val Ser Asn Asp	Ile Ile Asn Lys Val	
485	490	495
Lys Gly Val Asn Arg Val Thr Tyr Asp Ile Ser Ser	Lys Pro Pro Ala	
500	505	510
Thr Ile Glu Trp Glu		
515		

&lt;210&gt; 7184

&lt;211&gt; 236

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7184

Lys Asn Asn Lys Lys Asn His Ile Lys Met Ala Glu	Gln Lys Asn His		
1	5	10	15
Asn Asn Glu Leu Asn Val Glu Asp Ala Leu Thr	Gln Ser Glu Ala Phe		
20	25	30	
Leu Val Lys Asn Lys Ala Ile Ile Gly Ala Val	Val Ala Val Ile		
35	40	45	
Val Ile Val Ala Gly Ala Ile Leu Tyr Lys Asn	Phe Tyr Ala Glu Pro		
50	55	60	
Arg Glu Glu Lys Ala Gln Ala Ala Leu Phe	Lys Ser Glu Gln Tyr Phe		
65	70	75	80
Glu Gln Ser Ala Tyr Glu Gln Ala Leu Asn	Gly Asp Ser Ile Gly Ser		

85	90	95
Ile Gly Phe Leu Lys Val Ala Asp Gln Phe Ser Gly Thr Lys Ala Ala		
100	105	110
Asn Leu Ala Lys Ala Tyr Ala Gly Ile Cys Tyr Gln Asn Leu Gly Lys		
115	120	125
Tyr Glu Ala Ile Lys Ala Leu Asp Gly Phe Ser Gly Asp Asp Gln		
130	135	140
Met Val Ala Pro Ala Ile Gln Gly Ala Ile Gly Asn Cys Tyr Ala Gln		
145	150	155
Leu Gly Gln Leu Asp Lys Ala Thr Ser Ala Leu Leu Lys Ala Ala Asp		
165	170	175
His Ala Asp Asn Ser Thr Leu Ser Pro Ile Phe Leu Leu Gln Ala Gly		
180	185	190
Glu Ile Leu Met Lys Gln Gly Lys Asn Glu Glu Ala Val Lys Ala Phe		
195	200	205
Thr Lys Ile Lys Asp Lys Tyr Phe Gln Ser Tyr Gln Ala Met Asp Ile		
210	215	220
Asp Lys Tyr Ile Glu Gln Ala Lys Leu Leu Lys Lys		
225	230	235

&lt;210&gt; 7185

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7185

Asn Leu Cys Leu Ile Ala Tyr Ile Cys Leu Phe Val Glu Tyr Phe Gly			
1	5	10	15
Ile Asn Val Val Phe Lys Val Tyr Ile Tyr Ser Leu Phe Asn Thr Lys			
20	25	30	
Ile Phe Tyr Tyr Glu Ser Phe Asn Leu Arg Ser Leu Pro Tyr Trp Gly			
35	40	45	
Tyr Val Arg Leu Val Met Phe Arg Pro Tyr Cys Arg Phe Val			
50	55	60	

&lt;210&gt; 7186

&lt;211&gt; 716

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7186

Asp Thr Leu Asn Lys Lys Lys Thr Val Arg Lys Ser Val Ile Leu Cys			
1	5	10	15
Gly Glu Ile Cys Asn Phe Val Asn Val Thr Leu Ile Leu Leu Asn Met			
20	25	30	
Thr Asn Ile Ala Asn Ala Gln Asn Pro Phe Phe Glu Lys Tyr Thr Thr			
35	40	45	
Pro Tyr Gly Thr Val Pro Phe Asp Lys Ile Lys Asn Glu His Tyr Glu			
50	55	60	
Pro Ala Ile Arg Glu Gly Ile Ser Arg Gln Ala Ala Glu Ile Asp Ala			
65	70	75	80
Ile Val Asn Asn Pro Glu Ala Pro Thr Phe Ala Asn Thr Ile Leu Ala			
85	90	95	
Tyr Glu Lys Ser Gly Glu Leu Leu Asp Arg Val Thr Thr Val Phe Gly			
100	105	110	
Asn Leu Arg Ser Ala Glu Thr Asn Asp Asp Leu Gln Lys Ile Ala Gln			
115	120	125	
Glu Met Ile Pro Leu Leu Ser Glu His Ser Asn Asn Ile Ser Leu Asn			
130	135	140	

Gln Glu Leu Phe Glu Arg Ile Lys Val Val Tyr Gly Gln Lys Asp Ser  
 145 150 155 160  
 Ile Glu Leu Thr Pro Glu Gln Thr Lys Leu Leu Glu Asn Ala Tyr Asn  
 165 170 175  
 Gly Phe Ile Arg Arg Gly Ala Asn Leu Gln Gly Glu Ala Lys Glu Lys  
 180 185 190  
 Tyr Arg Glu Leu Thr Lys Asn Leu Ser Lys Leu Thr Leu Asp Phe Ser  
 195 200 205  
 Glu Asn Asn Leu Lys Glu Thr Asn Asn Tyr Gln Leu Thr Leu Thr Asp  
 210 215 220  
 Glu Ala Gln Leu Ala Gly Leu Pro Glu Ser Ala Ile Glu Ala Ala Ala  
 225 230 235 240  
 Glu Thr Ala Arg Glu Lys Gly Val Asn Gly Trp Val Phe Thr Leu His  
 245 250 255  
 Ala Pro Ser Tyr Ile Pro Phe Met Thr Tyr Ala Asp Asn Arg Asp Leu  
 260 265 270  
 Arg Arg Glu Leu Tyr Met Ala Tyr Asn Thr Lys Cys Thr His Asp Asn  
 275 280 285  
 Glu Tyr Asn Asn Leu Glu Ile Val Lys Lys Ile Ala Asn Ile His Met  
 290 295 300  
 Glu Ile Ala Gln Leu Leu Gly Tyr Asp Asn Tyr Ala Glu Tyr Thr Leu  
 305 310 315 320  
 Lys Glu Arg Met Ala Glu Thr Gly Asp Ala Val Tyr Lys Leu Leu Asn  
 325 330 335  
 Gln Leu Leu Asp Ala Tyr Thr Pro Thr Ala His Lys Glu Tyr Glu Ala  
 340 345 350  
 Val Gln Glu Leu Ala Arg Thr Glu Gln Gly Asp Ala Phe Glu Val Met  
 355 360 365  
 Pro Trp Asp Trp Ser Tyr Tyr Ser Asn Lys Leu Lys Asp Arg Gln Phe  
 370 375 380  
 Asn Ile Asn Glu Glu Met Leu Arg Pro Tyr Phe Glu Leu Ser Lys Val  
 385 390 395 400  
 Lys Ala Gly Val Phe Gly Leu Ala Thr Lys Leu Tyr Gly Ile Thr Phe  
 405 410 415  
 His Lys Asn Pro Asp Ile Pro Val Tyr His Lys Asp Val Asp Ala Tyr  
 420 425 430  
 Glu Val Leu Asp Lys Asp Gly Ser Phe Leu Ala Val Leu Tyr Thr Asp  
 435 440 445  
 Phe His Pro Arg Glu Gly Lys Arg Ser Gly Ala Trp Met Thr Glu Phe  
 450 455 460  
 Lys Gly Gln Trp Ile Glu Asp Thr Gly Glu Asn Ser Arg Pro His Val  
 465 470 475 480  
 Ser Val Val Met Asn Phe Thr Lys Pro Thr Glu Ser Lys Pro Ala Leu  
 485 490 495  
 Leu Thr Tyr Asp Glu Val Glu Thr Phe Leu His Glu Phe Gly His Ala  
 500 505 510  
 Leu His Gly Met Phe Ala Asn Ser Thr Tyr Gln Ser Leu Ser Gly Thr  
 515 520 525  
 Asn Val Tyr Trp Asp Phe Val Glu Leu Pro Ser Gln Ile Met Glu Asn  
 530 535 540  
 Phe Gly Ile Glu Lys Glu Phe Leu His Thr Phe Ala Asn His Tyr Gln  
 545 550 555 560  
 Thr Gly Glu Pro Leu Pro Asp Glu Leu Ile Ser Arg Leu Val Asp Ala  
 565 570 575  
 Ser Asn Phe Asn Val Ala Tyr Ala Cys Leu Arg Gln Val Ser Phe Gly  
 580 585 590  
 Leu Leu Asp Met Ala Trp Tyr Thr Arg Asn Thr Pro Phe Glu Gly Asp  
 595 600 605  
 Val Lys Ala Tyr Glu Arg Gln Ala Trp Ala Gln Ala Gln Ile Leu Pro

610	615	620
Thr Val Ser Glu Thr Cys Met Ser Thr Gln Phe Ser His Ile Phe Ala		
625	630	640
Gly Gly Tyr Ser Ala Gly Tyr Tyr Ser Tyr Lys Trp Ala Glu Val Leu		
645	650	655
Asp Ala Asp Ala Phe Ser Leu Phe Lys Gln Lys Gly Ile Phe Asn Glu		
660	665	670
Glu Val Ala Asn Ser Phe Arg Asn Asn Ile Leu Ser Lys Gly Gly Thr		
675	680	685
Glu His Pro Met Ile Leu Tyr Lys Arg Phe Arg Gly Gln Glu Pro Thr		
690	695	700
Ile Asp Ala Leu Leu Ile Arg Asn Gly Ile Lys Lys		
705	710	715

&lt;210&gt; 7187

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7187

Leu Leu Glu Lys Ser Ile Tyr Gly Asn Ile Ile Tyr Asn Met Leu Glu		
1	5	10
Lys Glu Ala Tyr Ile Gln Tyr Phe Asn Gln Ser Asp Gln Thr Val Lys		
20	25	30
Lys Thr Val Glu Leu Leu Glu Ser Glu Lys Ala Phe Leu Lys Ala Pro		
35	40	45
Val Ser Val Glu Pro Gln Lys Glu Glu Lys Lys Asp Gly Lys Lys Lys		
50	55	60
Thr Thr Ala Gln Val Asp Ser Thr Gly Glu Glu Ile Leu Arg Leu		
65	70	75
Tyr Ala		80

&lt;210&gt; 7188

&lt;211&gt; 102

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7188

Asn Gly Gly Lys Arg Glu Met Lys Arg Asn Asp Ala Glu Pro Ile Gly		
1	5	10
Lys Leu Ile Gln Lys Tyr Leu Arg Gln Glu Ser Leu Glu Ser Pro Leu		
20	25	30
Asn Glu Gln Arg Leu Leu Asp Ser Trp Glu Thr Val Leu Gly Pro Thr		
35	40	45
Ile Met Ser Tyr Thr Arg Asp Leu Tyr Ile Arg Asn Gln Val Leu Tyr		
50	55	60
Val His Leu Thr Ser Ala Ala Leu Arg Gln Glu Leu Met Met Gly Arg		
65	70	75
Glu Leu Leu Val Arg Asn Leu Asn Gln Lys Val Gly Ala Thr Val Ile		
85	90	95
Thr Asn Ile Ile Phe Arg		
100		

&lt;210&gt; 7189

&lt;211&gt; 427

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7189

Leu His Met Lys Thr Pro Ser Gln Thr His Val Leu Gly Leu Ala His  
 1 5 10 15  
 Pro Pro Leu Pro Met Val Arg Leu Ala Phe Ile Gly Leu Gly Asn Arg  
 20 25 30  
 Gly Val Leu Thr Leu Gln Arg Tyr Leu Gln Ile Glu Gly Val Glu Ile  
 35 40 45  
 Lys Ala Leu Cys Glu Ile Arg Glu Gly Asn Leu Val Lys Ala Gln Lys  
 50 55 60  
 Ile Leu Arg Glu Ala Gly Tyr Pro Gln Pro Asp Gly Tyr Thr Gly Pro  
 65 70 75 80  
 Asp Gly Trp Lys Arg Met Cys Glu Arg Asp Asp Ile Asp Leu Val Phe  
 85 90 95  
 Ile Cys Thr Asp Trp Leu Thr His Thr Pro Met Ala Val Tyr Ser Met  
 100 105 110  
 Glu His Gly Lys His Val Ala Ile Glu Val Pro Ala Ala Met Thr Val  
 115 120 125  
 Glu Glu Cys Trp Lys Leu Val Asp Thr Ala Glu Lys Thr Arg Gln His  
 130 135 140  
 Cys Met Met Leu Glu Asn Cys Cys Tyr Asp Pro Phe Ala Leu Thr Thr  
 145 150 155 160  
 Leu Asn Met Ala Gln Gln Gly Val Phe Gly Glu Ile Thr His Val Glu  
 165 170 175  
 Gly Ala Tyr Ile His Asp Leu Arg Ser Ile Tyr Phe Ala Asp Glu Ser  
 180 185 190  
 Lys Gly Gly Phe His Asn His Trp Gly Lys Lys Tyr Ser Ile Glu His  
 195 200 205  
 Thr Gly Asn Pro Tyr Pro Thr His Gly Leu Gly Pro Val Cys Gln Ile  
 210 215 220  
 Leu Asn Ile His Arg Gly Asp Arg Met Asn Tyr Leu Val Ser Leu Ser  
 225 230 235 240  
 Ser Leu Gln Ala Gly Met Thr Glu Tyr Ala Arg Lys Asn Phe Gly Ala  
 245 250 255  
 Asp Ser Pro Glu Ala Arg Gln Lys Tyr Leu Leu Gly Asp Met Asn Thr  
 260 265 270  
 Thr Leu Ile Gln Thr Val Lys Gly Lys Ser Ile Met Ile Gln Tyr Asn  
 275 280 285  
 Val Val Thr Pro Arg Pro Tyr Ser Arg Leu His Thr Val Cys Gly Thr  
 290 295 300  
 Lys Gly Phe Ala Gln Lys Tyr Pro Val Pro Ser Ile Ala Leu Glu Pro  
 305 310 315 320  
 Asp Ala Gly Ser Pro Leu Glu Gly Lys Ala Leu Glu Glu Ile Met Glu  
 325 330 335  
 Arg Tyr Lys His Pro Phe Thr Ala Thr Phe Gly Thr Glu Ala His Arg  
 340 345 350  
 Arg Asn Leu Pro Asn Glu Met Asn Tyr Val Met Asp Cys Arg Leu Ile  
 355 360 365  
 Tyr Cys Leu Arg Asn Gly Leu Pro Leu Asp Met Asp Val Tyr Asp Ala  
 370 375 380  
 Ala Glu Trp Ser Cys Ile Thr Glu Leu Ser Glu Gln Ser Val Leu Asn  
 385 390 395 400  
 Gly Ser Ile Pro Val Glu Ile Pro Asp Phe Thr Arg Gly Ala Trp Lys  
 405 410 415  
 Lys Cys His Ile Ser Arg Thr Ser Asp Leu Tyr  
 420 425

&lt;210&gt; 7190

&lt;211&gt; 171

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7190

Lys	Lys	Met	Lys	Tyr	Lys	Tyr	Leu	Met	Leu	Pro						
1				5				10						15		
Phe	Val	Ser	Gly	Cys	Asn	Asp	Ser	Asp	Asp	Val	Asn	Gly	Ile	Phe	Thr	
				20				25					30			
Gly	Lys	Val	Trp	Lys	Leu	Thr	Tyr	Ile	Thr	Lys	Lys	Asn	Glu	His	Lys	
				35				40				45				
Pro	Tyr	Asp	Phe	Trp	Gly	Asp	Lys	Asp	Lys	Tyr	Glu	Gln	Ser	Ile	Lys	
				50				55			60					
Asn	Tyr	Ile	Asn	Lys	Glu	Gly	Ala	Tyr	Thr	Ile	Lys	Phe	Glu	Gly	Glu	
				65				70			75		80			
Thr	Thr	Asp	Asn	Val	Ile	Ser	Gly	Lys	Phe	Ser	Gly	Thr	Leu	Leu	Ser	
				85					90			95				
His	Ser	Tyr	Thr	Gly	Thr	Trp	Ser	Ala	Asn	Gly	Glu	Ser	Asn	Ala	Phe	
				100				105			110					
Ser	Ala	Ser	Val	Lys	Gly	Ser	Glu	Asn	Asp	Pro	Leu	Gly	Phe	Ser	Asn	
				115			120				125					
Lys	Phe	Val	Glu	Gly	Leu	Asn	Arg	Ala	Thr	Ser	Tyr	Lys	Gly	Asn	Tyr	
				130			135				140					
Asp	Asn	Leu	Phe	Ile	Tyr	Tyr	Lys	Asp	Glu	Gly	Gly	Arg	Glu	Leu	Cys	
				145			150			155			160			
Leu	Val	Phe	His	Val	Asp	Lys	Asp	Asn	Asn	Lys						
				165				170								

&lt;210&gt; 7191

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7191

Gln	Arg	Met	Asp	Thr	Ala	Asn	Ser	Lys	Gln	Ser	Asp	Leu	Asp	Lys	Arg
1				5				10			15				
Tyr	Ile	Arg	Met	Ala	Ser	Ile	Trp	Ser	Glu	Asn	Ser	Tyr	Cys	Gln	Arg
				20				25			30				
Arg	Lys	Val	Gly	Ala	Leu	Ile	Val	Lys	Asp	Lys	Met	Ile	Ile	Ser	Asp
				35				40			45				
Gly	Tyr	Asn	Gly	Thr	Pro	Ser	Gly	Phe	Glu	Asn	Val	Cys	Glu	Asp	Asp
				50			55			60					
Asn	Asn	Val	Thr	Lys	Pro	Tyr	Val	Leu	His	Ala	Glu	Ala	Asn	Ala	Ile
				65			70			75			80		
Thr	Lys	Ile	Ala	Arg	Ser	Asn	Asn	Ser	Ser	Asp	Gly	Ala	Thr	Met	Tyr
				85				90			95				
Val	Thr	Ala	Ser	Pro	Cys	Ile	Glu	Cys	Ala	Lys	Leu	Ile	Ile	Gln	Ala
				100			105				110				
Gly	Ile	Lys	Arg	Val	Val	Tyr	Ser	Glu	His	Tyr	Arg	Leu	Glu	Asp	Gly
				115			120			125					
Ile	Glu	Leu	Leu	Gln	Arg	Ala	Gly	Ile	Glu	Val	Val	Phe	Val	Asp	Thr
				130			135			140					
Ser	Glu	Lys													
		145													

&lt;210&gt; 7192

&lt;211&gt; 675

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7192

Thr Met Arg Leu Lys Leu Lys His Ile Tyr Phe Cys Ser Leu Ile Ala  
 1 5 10 15  
 Met Gly Gly Leu Ala Ile Thr Ser Cys Glu Asp Phe Leu Asp Arg Ser  
 20 25 30  
 Pro Ile Ser Gln Val Thr Pro Glu Lys Tyr Phe Ser Thr Val Asp Gln  
 35 40 45  
 Val Ala Asn Tyr Leu Asn Asn Tyr Tyr Asn Asp Tyr Leu Asp Asp Ser  
 50 55 60  
 Arg Asn Tyr Lys Leu Tyr His Gln Gln Ala Trp Asn Ser Gly Met Gln  
 65 70 75 80  
 Arg Asn Asp Ala Asn Thr Asp Asn Leu Leu Ala Asp Asp Ser Ser Leu  
 85 90 95  
 Asp Tyr Phe Ala Gly Asn Trp Gln Val Gly Ser Gly Lys Ser Ile Gln  
 100 105 110  
 Ala Pro Leu Asn Arg Ile Arg Thr Trp Asn Tyr Leu Leu Glu Gln Val  
 115 120 125  
 Leu Pro Lys Glu Lys Glu Gly Ser Ile Gln Gly Ser Val Glu Asp Leu  
 130 135 140  
 Lys His Tyr Ile Gly Glu Ala Tyr Phe Phe Arg Ala Met Ala Tyr Tyr  
 145 150 155 160  
 Lys Ala Leu Val Lys Tyr Gly Asp Tyr Pro Ile Val Asp Lys Val Leu  
 165 170 175  
 Pro Asp Gln Glu Glu Ile Leu Leu Glu Tyr Ser Thr Arg Ala Pro Arg  
 180 185 190  
 Asn Glu Val Ala Arg Gln Ile Leu Lys Asp Leu Asp Glu Ala Ile Asn  
 195 200 205  
 Arg Met His Asp Gln Gly Phe Gln Asn Asn Gln Arg Ile Asn Lys Gln  
 210 215 220  
 Val Ala Gln Leu Tyr Lys Ser Arg Val Ala Leu Phe Glu Ala Thr Phe  
 225 230 235 240  
 Glu Lys Tyr His Arg Gly Thr Gly Arg Val Pro Gly Asp Glu Ser Trp  
 245 250 255  
 Pro Gly Ala Lys Met Ser Tyr Asn Ser Gly Lys Thr Phe Asn Ile Asp  
 260 265 270  
 Gly Glu Ile Asp Phe Phe Leu Thr Glu Ala Met Asn Ala Ala Ala  
 275 280 285  
 Val Ala Asp His Cys Thr Leu Thr Glu Asn Ser His Val Leu Asn Pro  
 290 295 300  
 Glu Tyr Gly Gln Ile Tyr Asn Trp Asn Pro Tyr Tyr Glu Met Phe Ser  
 305 310 315 320  
 Thr Pro Asp Ala Ser Gly Tyr Ser Glu Val Leu Leu Trp Lys Gln Tyr  
 325 330 335  
 Asp Lys Ser Leu Asn Val Ser His Cys Ala Pro Ala Arg Leu Gln Asn  
 340 345 350  
 Gly Asp Arg Thr Gly Leu Thr Arg Gly Phe Ile Thr Thr Phe Leu Met  
 355 360 365  
 Lys Ser Gly Leu Pro Ile Tyr Ala Ala Gly Asn Glu Tyr His Gly Asp  
 370 375 380  
 Val Ser Ile Ser Asp Glu Lys Glu Asn Arg Asp Glu Arg Leu Gln Leu  
 385 390 395 400  
 Phe Val Trp Gly Glu Lys Asp Val Leu His Ser Asp Thr Lys Asn Pro  
 405 410 415  
 Ala Val Ala Ala Ala Gly Thr Thr Leu Leu Phe Gly Val Pro Asn Ile  
 420 425 430  
 Ile Ser Glu Gln Lys Gln Thr Gln Asp Leu Thr Gly Tyr Arg Pro Arg  
 435 440 445  
 Lys Ala His Thr Tyr Asp Tyr Ala Gln Thr Lys Gly Asp Glu Leu Leu  
 450 455 460  
 Gly Thr Asn Ala Cys Val Val Phe Arg Ser Ala Glu Ala Asn Leu Asn

465	470	475	480
Tyr Met Glu Ala Cys Tyr Glu Lys Thr Gly Ser Leu Asp Ala Lys Ala			
485	490	495	
Gln Lys Tyr Trp Lys Ala Leu Arg Thr Arg Ala Gly Val Asp Asp Asp			
500	505	510	
Tyr Ala Lys Thr Ile Ala Ala Thr Asp Leu Ser Lys Glu Asn Asp Leu			
515	520	525	
Ala Val Tyr Ser Gly Ser Lys Met Val Asp Val Thr Leu Tyr Asn Ile			
530	535	540	
Arg Arg Glu Arg Arg Cys Glu Phe Ile Gly Glu Gly Met Arg Trp Asp			
545	550	555	560
Asp Leu Lys Arg Trp Arg Ser Trp Asp Gln Leu Leu Thr Lys Pro Tyr			
565	570	575	
Ile Ile Glu Gly Ile Asn Phe Trp Asp Ala Ala Tyr Lys Asp His Lys			
580	585	590	
Asp Ile Lys Asp Asp Gly Thr Leu Asp Ala Asn Val Ser Pro Lys Ser			
595	600	605	
Asp Ser Lys Tyr Leu Arg Pro Leu Arg Arg Thr Ser Ile Asn Asn Glu			
610	615	620	
Leu Tyr Asp Gly Leu Thr Trp Arg Lys Ala Phe Tyr Leu Asp Pro Ile			
625	630	635	640
Gly Ile Glu Asp Met Ser Leu Thr Ala Thr Asn Pro Glu Asp Ile Asn			
645	650	655	
Thr Thr Gln Leu Tyr Gln Asn Pro Tyr Trp Pro Met Thr Ala Gly Lys			
660	665	670	
Ala Leu Glu			
675			

<210> 7193  
<211> 184  
<212> PRT  
<213> B.fragilis

<400> 7193			
Asn Leu Lys Arg Arg Lys Arg Lys Met Glu Arg Lys Lys Gln Leu Arg			
1	5	10	15
Lys Trp Ile Ala Gln Glu Lys Lys Tyr Ser Asp Ser Thr Leu Lys			
20	25	30	
Ser Leu Ser Glu Lys Val Leu Ile Thr Leu Glu Ala Cys Pro Glu Phe			
35	40	45	
Gln Lys Gly His Thr Ile Leu Tyr His Ser Met Lys Asp Glu Val			
50	55	60	
Gln Thr His Ala Phe Ile Glu Lys Trp Ser Arg Ser Lys Arg Ile Ile			
65	70	75	80
Leu Pro Val Val Thr Gly Asp Glu Leu Glu Leu Arg Val Tyr Thr Gly			
85	90	95	
Pro Gln Asp Leu Ala Ile Gly Ser Tyr Gly Ile Ala Glu Pro Thr Gly			
100	105	110	
Ala Pro Phe Thr Asp Tyr Gly Thr Ile Asp Leu Ala Val Ile Pro Gly			
115	120	125	
Val Ala Phe Asp Arg Tyr Gly His Arg Leu Gly Arg Gly Lys Gly Tyr			
130	135	140	
Tyr Asp Arg Leu Leu Pro Gln Ile Pro Ala Pro Lys Val Gly Ile Cys			
145	150	155	160
Phe Pro Phe Gln Leu Ile Glu Glu Val Pro Ala Glu Ala Phe Asp Phe			
165	170	175	
Arg Met Asp Thr Ile Ile Ala Gln			
180			

<210> 7194  
<211> 494  
<212> PRT  
<213> B.fragilis

<400> 7194

Lys	Asp	Met	Ser	Thr	Lys	Asn	Ser	Ser	Arg	Phe	Thr	Pro	Val	Ile	Ile
1					5				10						15
Ala	Ile	Ser	Val	Val	Ile	Gly	Ile	Leu	Ile	Gly	Thr	Phe	Tyr	Ala	Lys
					20				25						30
His	Phe	Ala	Gly	Asn	Arg	Leu	Gly	Ile	Ile	Asn	Gly	Ser	Ser	Asn	Lys
					35				40						45
Leu	Asn	Ala	Leu	Leu	Arg	Ile	Val	Asp	Asp	Gln	Tyr	Val	Asp	Thr	Val
					50				55						60
Asn	Met	Ala	Asp	Leu	Val	Glu	Lys	Ala	Met	Pro	Gln	Ile	Leu	Ala	Glu
					65				70						80
Leu	Asp	Pro	His	Ser	Thr	Tyr	Ile	Pro	Ala	Gln	Asn	Leu	Glu	Glu	Val
					85				90						95
Thr	Ser	Glu	Leu	Glu	Gly	Ser	Phe	Ser	Gly	Ile	Gly	Ile	Gln	Phe	Thr
					100				105						110
Ile	Gln	Asp	Asp	Thr	Ile	His	Val	Asn	Ser	Val	Ile	Gln	Gly	Gly	Pro
					115				120						125
Ser	Glu	Lys	Val	Gly	Leu	Met	Ala	Gly	Asp	Arg	Ile	Val	Met	Val	Asp
					130				135						140
Asp	Ser	Leu	Phe	Val	Gly	Lys	Lys	Val	Thr	Asn	Glu	Arg	Ala	Met	Arg
					145				150						160
Thr	Leu	Lys	Gly	Pro	Lys	Gly	Thr	Gln	Val	Lys	Leu	Gly	Val	Lys	Arg
					165				170						175
Ala	Thr	Glu	Lys	Asp	Leu	Leu	Asn	Phe	Thr	Ile	Thr	Arg	Gly	Asp	Ile
					180				185						190
Pro	Gln	Asn	Thr	Ile	Asp	Ala	Ala	Tyr	Met	Leu	Thr	Asp	Asp	Phe	Gly
					195				200						205
Tyr	Ile	Gln	Val	Ser	Lys	Phe	Gly	Arg	Thr	Thr	His	Val	Glu	Leu	Leu
					210				215						220
Asn	Ala	Ile	Ala	Leu	Leu	Asn	His	Lys	Asn	Cys	Lys	Gly	Leu	Ile	Ile
					225				230						240
Asp	Leu	Arg	Gly	Asn	Thr	Gly	Gly	Tyr	Met	Glu	Ala	Ala	Val	Arg	Met
					245				250						255
Val	Asn	Glu	Phe	Leu	Pro	Glu	Gly	Lys	Leu	Ile	Val	Tyr	Thr	Glu	Gly
					260				265						270
Arg	Lys	Tyr	Pro	Arg	Ala	Asp	Glu	Phe	Ala	Asn	Gly	Thr	Gly	Ser	Cys
					275				280						285
Gln	Lys	Met	Pro	Val	Ile	Val	Leu	Ile	Asp	Glu	Gly	Ser	Ala	Ser	Ala
					290				295						300
Ser	Glu	Ile	Phe	Thr	Gly	Ala	Ile	Gln	Asp	Asn	Asp	Arg	Gly	Met	Val
					305				310						320
Val	Gly	Arg	Arg	Ser	Phe	Gly	Lys	Gly	Leu	Val	Gln	Gln	Pro	Ile	Asp
					325				330						335
Phe	Ser	Asp	Gly	Ser	Ala	Ile	Arg	Leu	Thr	Ile	Ala	Arg	Tyr	Tyr	Thr
					340				345						350
Pro	Ser	Gly	Arg	Cys	Ile	Gln	Arg	Pro	Tyr	Gln	Asn	Gly	Lys	Asp	Arg
					355				360						365
Asn	Tyr	Glu	Met	Asp	Trp	Leu	Thr	Arg	Tyr	Glu	His	Gly	Glu	Tyr	Phe
					370				375						380
Ser	Lys	Asp	Ser	Ile	Lys	Leu	Asp	Glu	Asn	Leu	Arg	Tyr	Ser	Thr	Ala
					385				390						400
Leu	Gly	Arg	Pro	Val	Tyr	Gly	Gly	Gly	Ile	Met	Pro	Asp	Val	Phe	
					405				410						415
Val	Pro	Gln	Asp	Thr	Thr	Gly	Val	Thr	Ser	Tyr	Leu	Thr	Glu	Val	Leu

420	425	430
Ser Lys Gly Leu Thr Ile Gln Phe Thr Phe His Tyr Thr Asp Asn Asn		
435	440	445
Arg Asp Lys Leu Lys Lys Tyr Glu Asp Glu Glu Ser Leu Leu Asn Tyr		
450	455	460
Met Arg Arg Gln Gly Leu Val Glu Gln Phe Ile Arg Tyr Ala Asp Ser		
465	470	475
Lys Gly Val Lys Arg Arg Ile Ile Leu Ile Gln Lys Ser Tyr		
485	490	

&lt;210&gt; 7195

&lt;211&gt; 609

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7195

Asn Ile Leu Gly Leu Met Ser Phe Leu Lys Phe Ile Phe Thr His Cys			
1	5	10	15
Leu Ile Leu Lys Ser Phe Ile Met Arg Ala Leu Ile Tyr Val Val Cys			
20	25	30	
Leu Ile Gly Ala Met Cys Gly Trp Ser Cys Ser Asp His Ile Ala Asp			
35	40	45	
Ser Ser Asp Leu Ser Val Gln Thr Arg Thr Ile Val Ser Pro Glu Gly			
50	55	60	
Val Ser Thr Ser Asn Pro Asp Leu Ile Ser Asp Trp Glu His Gln Ser			
65	70	75	80
Leu Leu Thr Leu Ser Thr Gly Glu Arg Ile Asn Thr Pro Trp Thr Pro			
85	90	95	
Gly Ala Ser His Ser Met Ser Glu Glu Thr Val Ser Asp Ile Lys Lys			
100	105	110	
Glu Asp Gly Trp Thr Met Leu Phe His Thr Phe Lys Ala Leu Asn Glu			
115	120	125	
Ser Pro Asn Ser Asn Tyr Leu Cys Phe Tyr Asn Glu Leu Thr Gly Val			
130	135	140	
Ile Lys Val Phe Tyr Tyr Ile Lys Asn Ala Gln Gly Asn Asn Gly Phe			
145	150	155	160
Gln Trp Arg Ile Ser Thr Ala Asn Gly Val Gly Ser Ser Leu Leu Ala			
165	170	175	
Leu Asn Ser Tyr Ile Ser Pro Leu Asp Asn Ser Ser Asp Lys Pro Asn			
180	185	190	
Cys Met Asn Leu Ser Thr Phe Ala Gln Thr Pro Ile Asn Gly Leu Thr			
195	200	205	
Pro Gly Trp Asn Gly Phe Glu Phe Glu Val Pro Tyr Thr Thr Asp Tyr			
210	215	220	
Arg Asn Ile Ser Leu Ser Ile Asn Ser Tyr Asn Gln Val Ile Thr Asp			
225	230	235	240
Phe Asn Phe Ser Gly Thr Thr Glu Leu Lys Thr Glu Gly Thr Ile Thr			
245	250	255	
Lys Asn Val Ala Asn Gly Gly Thr Thr Lys Thr Ala Ala Thr Leu			
260	265	270	
Ala Ser Ser Gly Ala Lys Lys Tyr Met Asp Glu Leu Lys Lys Lys Ala			
275	280	285	
Asn Gly Gln Pro Ser Asn Ile Ala Gly Asp Val Lys Leu Gly Lys Lys			
290	295	300	
Ile Val Asp Ala Leu Thr Ser Gly Asn Tyr Phe Ser Ala Ile Ala Lys			
305	310	315	320
Gly Leu Lys Phe Ile Phe Gly Ser Thr Thr Arg Pro Glu Val Ser			
325	330	335	
Lys Val Ser Leu Thr Thr Gly Val Val Thr Met Gly Gly Thr Ser			

340	345	350
Gln Ser Gly Ser His Asp Asn Val	Glu Pro Leu Phe Ser	Ile Asn Leu
355	360	365
Tyr Asp Leu Met Asn Gly Asn Leu Ala Ala Leu Lys Lys Ser Pro Ser		
370	375	380
Phe Asn Ser Leu Val Leu Pro Val Asp Val Thr Thr Arg Ser Gly Gly		
385	390	395
Glu Arg Tyr Ala Gly Val Trp Thr Leu Lys Glu Ser Pro Val Ile Arg		400
405	410	415
Met Thr Arg Tyr Gly Arg Val Leu Asn Tyr Asn Ile Ser Gly Gly Val		
420	425	430
Phe Thr Val Ala Ser Val Leu Leu Pro Tyr Leu Asp Ser Asn Val Asn		
435	440	445
Lys Lys Ala Ser Val Ile Leu Asn Pro Tyr Leu Ser Gln Tyr Val Thr		
450	455	460
Ser Met Gln Thr Met Val Asp Val Val Ser Cys Ala Lys Leu Asn Gly		
465	470	475
Glu Lys Tyr Phe Asn Gly Tyr Ala Ile Ser Asp Phe Met Ser Glu Asp		
485	490	495
Pro Ile Tyr Glu Asp Lys Asp Leu Ala Ile Arg Lys Ser Ala Phe Ser		
500	505	510
Gly Ser Gly Gly Glu Ile Cys Asn Gln Ser Ile Ser Ile Ser Asp Tyr		
515	520	525
Asn Ile Gly Asp Gly Gly Asn Gln Asn Met Tyr Phe Phe Asp Trp Gly		
530	535	540
Thr Asn Ile Lys Gly Asp Glu Val Ala Val Val Thr Val Asn Ile Ala		
545	550	555
Tyr Asn Tyr Lys Gly Lys Val His Asn Val Ser Ile Ser Arg Asn Tyr		
565	570	575
Lys Val Gln Tyr Val His Asp Pro Ala Thr Asp Val Lys Ile Leu Gly		
580	585	590
Thr Ala Gly Thr Lys Lys Val Val Ile Val Asn Asn Tyr Pro Gln Phe		
595	600	605
Glu		

<210> 7196  
<211> 148  
<212> PRT  
<213> B.fragilis

<400> 7196		
Lys Lys Met Gly Lys Ser Thr Phe Leu Gln Asp Phe Lys Ala Phe Ala		
1	5	10
Met Lys Gly Asn Val Val Asp Met Ala Val Gly Val Ile Ile Gly Gly		
20	25	30
Ala Phe Gly Lys Ile Val Ser Ser Val Val Ala Asp Ile Ile Met Pro		
35	40	45
Pro Leu Gly Leu Leu Ile Gly Gly Val Asn Phe Thr Asp Leu Lys Trp		
50	55	60
Val Met Lys Ala Ala Glu Tyr Gly Ala Asp Gly Lys Glu Thr Ala Ala		
65	70	75
Ala Val Thr Leu Asn Tyr Gly Asn Phe Leu Gln Ala Thr Phe Asp Phe		
85	90	95
Leu Ile Ile Ala Phe Ser Ile Phe Leu Phe Ile Lys Leu Ile Thr Lys		
100	105	110
Leu Thr Gln Lys Lys Ala Glu Ala Pro Ala Ala Pro Pro Ala Pro Pro		
115	120	125
Ala Pro Thr Lys Glu Glu Ile Leu Leu Thr Glu Ile Arg Asp Leu Leu		

130	135	140
Lys Glu Lys Gln		
145		
<210> 7197		
<211> 138		
<212> PRT		
<213> B.fragilis		
<400> 7197		
Lys Gln Gly Val Pro Ser Glu Val Gly Asp Val Pro Val Arg Ala His		
1                   5                   10                   15		
Val Phe Ala Lys Glu Phe Ser Cys Val Val Arg Met Leu Gly Leu Tyr		
20                   25                   30		
Ile Lys Lys Glu Asn Leu Ile Ser Gln Ile Leu Phe Arg Ala Glu Asp		
35                   40                   45		
Gly Ala Gln Thr Arg Asp Pro Gln Leu Gly Arg Leu Met Leu Tyr Gln		
50                   55                   60		
Leu Ser Tyr Phe Arg Asn Phe Cys Gly Gln Arg Trp Ile Arg Thr Thr		
65                   70                   75                   80		
Glu Val Glu Arg Gln Gln Ile Tyr Ser Leu Pro His Leu Ala Thr Leu		
85                   90                   95		
Val Phe Ala Leu Leu Phe Ala Phe Glu Ser Leu Cys Phe Leu Leu Ser		
100                  105                  110		
Arg Phe Val Ser Gln Leu Arg Cys Lys Asp Thr Thr Ile Tyr Leu Asn		
115                  120                  125		
Ser Lys Gln Asn Arg Ser Phe Leu Leu Gln		
130                  135		
<210> 7198		
<211> 66		
<212> PRT		
<213> B.fragilis		
<400> 7198		
Ser His Leu Phe Arg Phe Thr Ile Glu Asn Leu Val Val Glu Ile Ala		
1                   5                   10                   15		
Asn Ile Ser Phe Ile Thr Val Tyr Val Leu Trp Gly Glu Lys Leu Glu		
20                   25                   30		
Leu Ser Phe Asp Ile Ser Leu Glu Thr Lys Ile Leu Trp Pro Phe Leu		
35                   40                   45		
Leu Pro Ser Gly Asn Ala Cys Phe Asn Ser Met Leu Lys Gln Val Phe		
50                   55                   60		
Cys Ile		
65		
<210> 7199		
<211> 83		
<212> PRT		
<213> B.fragilis		
<220>		
<221> UNSURE		
<222> (20)		
<223> Identity of amino acid sequences at the above locations are unknown.		
<400> 7199		
His Phe Arg Ala Gly Gln Ile Leu Arg Ile Phe Pro Lys Lys Val Thr		
1                   5                   10                   15		

Gly Lys Val Xaa Pro Thr Leu Arg Pro Cys Ser Ser Asp Thr Ile Leu  
   20               25               30  
 Arg Ala Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp  
   35               40               45  
 Gln Gly Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu  
   50               55               60  
 Val Ile Asn Ala Leu Gly Phe Thr Gly Gln Leu Lys Glu Ile Trp Glu  
   65               70               75               80  
 Ile Arg Cys

<210> 7200  
<211> 696  
<212> PRT  
<213> B.fragilis

<400> 7200  
 Lys Ala Leu Leu Leu Tyr Leu Lys Ser Asn Gln Lys Pro Met Ile  
   1               .5               10               15  
 Lys Lys Ile Leu Ala Ala Leu Leu Phe Pro Thr Phe Ala Tyr Ala  
   20               25               30  
 Gln Ile Asn Thr Asp Arg Val Met Met Ile Ala Arg Asn Ala Leu Tyr  
   35               40               45  
 Phe Glu Asp Tyr Val Leu Ser Ile Gln Tyr Phe Asn Gln Val Ile Asn  
   50               55               60  
 Ala Lys Pro Tyr Leu Tyr Glu Pro Tyr Phe Phe Arg Gly Leu Ala Lys  
   65               70               75               80  
 Ile Asn Leu Asp Asp Tyr Gln Gly Ala Glu Ala Asp Cys Asp Ala Ala  
   85               90               95  
 Ile Asp Arg Asn Pro Phe Val Val Gly Ala Tyr Gln Ile Arg Gly Leu  
   100              105              110  
 Ala Arg Ile Lys Gln Asn Lys Tyr Asp Gly Ala Ile Glu Asp Tyr Lys  
   115              120              125  
 Lys Ala Leu His Phe Asp Pro Glu Asn Ile Thr Leu Trp His Asn Leu  
   130              135              140  
 Thr Leu Cys His Ile Gln Lys Glu Asp Tyr Lys Ala Ala Glu Asp Asp  
   145              150              155              160  
 Leu Gly Lys Leu Leu Ala Val Ala Pro Lys Tyr Thr Arg Ala Tyr Leu  
   165              170              175  
 Met Arg Gly Glu Val Ala Leu Lys Gln Gln Asp Thr Leu Arg Ala Leu  
   180              185              190  
 Asn Asp Phe Asn Thr Ala Ile Glu Met Asp Lys Tyr Asp Pro Asp Ala  
   195              200              205  
 Trp Ala Ser Arg Ala Ile Val Arg Leu Gln Gln Gly Lys Tyr Ala Glu  
   210              215              220  
 Ala Glu Ser Asp Leu Asn His Ala Thr His Leu Asn Ala Lys Asn Ala  
   225              230              235              240  
 Gly Asn Tyr Ile Asn Arg Ala Leu Ala Arg Phe His Gln Asn Asn Leu  
   245              250              255  
 Arg Gly Ala Met Ser Asp Tyr Asp Leu Ala Leu Asp Ile Asp Pro Asn  
   260              265              270  
 Asn Phe Ile Gly His Tyr Asn Arg Gly Leu Leu Arg Ala Gln Val Gly  
   275              280              285  
 Asp Asp Asn Arg Ala Ile Glu Asp Phe Asp Phe Val Leu Gln Ile Glu  
   290              295              300  
 Pro Asp Asn Met Met Ala Thr Phe Asn Arg Gly Leu Leu Arg Ala Gln  
   305              310              315              320  
 Thr Gly Asp Tyr Arg Gly Ala Ile Lys Asp Tyr Thr Lys Val Ile Asp  
   325              330              335

Val Tyr Pro Asn Phe Leu Ala Gly Tyr Tyr Gln Arg Ala Glu Ala Arg  
 340 345 350  
 Arg Lys Ile Gly Asp Arg Lys Gly Ala Glu Met Asp Glu Phe Lys Val  
 355 360 365  
 Met Lys Ala Gln Leu Asp Lys Gln Asn Gly Val Ser Asn Ala Asp Lys  
 370 375 380  
 Ser Val Ala Asp Asn Lys Asn Gly Asn Asn Lys Asp Glu Asn Lys Thr  
 385 390 395 400  
 Arg Lys Lys Ser Asp Lys Asp Met Asn Asn Tyr Arg Lys Ile Val Ile  
 405 410 415  
 Ala Asp Asn Ser Glu Val Glu Gln Lys Tyr Lys Ser Asp Ile Arg Gly  
 420 425 430  
 Arg Val Gln Asp Arg Asn Val Asn Ile Lys Met Glu Pro Met Tyr Ala  
 435 440 445  
 Leu Thr Tyr Tyr Glu Lys Met Ser Asp Val Lys Arg Ala Val His Tyr  
 450 455 460  
 Tyr Lys Tyr Ile Asp Asp Leu Asn Arg Ala Gly Val Leu Pro Lys Arg  
 465 470 475 480  
 Leu Tyr Ile Thr Asn Met Glu Ser Pro Leu Thr Glu Glu Gln Val Lys  
 485 490 495  
 Phe His Phe Ala Leu Ile Asp Thr His Thr Ser Ala Ile Val Glu Asn  
 500 505 510  
 Pro Lys Asp Ala Arg Thr Arg Phe Ser Arg Ala Leu Asp Phe Tyr Leu  
 515 520 525  
 Val Gln Asp Phe Ala Ser Ser Ile Glu Asp Leu Thr Gln Ala Ile Leu  
 530 535 540  
 Leu Asp Asp Ser Phe Phe Pro Ala Tyr Phe Met Arg Ser Leu Val Arg  
 545 550 555 560  
 Cys Lys Gln Leu Glu Tyr Gln Lys Ala Glu Glu Ala Asn Ala Ala Ser  
 565 570 575  
 Ala Thr Pro Ala Thr Leu Pro Gly Ile Ser Ala Pro Gln Lys Ser Glu  
 580 585 590  
 Val Ser Ala Leu Asp Tyr Asp Ile Val Lys Ser Asp Leu Asp His Val  
 595 600 605  
 Ile Thr Leu Ala Pro Asp Phe Val Tyr Ala Tyr Tyr Asn Arg Ala Asn  
 610 615 620  
 Val Leu Ala Met Leu Lys Asp Tyr Arg Ala Ala Ile Ala Asp Tyr Asp  
 625 630 635 640  
 Lys Ala Ile Glu Leu Asn Lys Glu Phe Ala Glu Ala Tyr Phe Asn Arg  
 645 650 655  
 Gly Leu Thr His Ile Phe Leu Gly Asn Asn Lys Asn Gly Ile Ala Asp  
 660 665 670  
 Leu Ser Lys Ala Gly Glu Leu Gly Ile Val Ser Ala Tyr Asn Ile Leu  
 675 680 685  
 Lys Arg Phe Thr Glu Val Pro Glu  
 690 695

&lt;210&gt; 7201

&lt;211&gt; 649

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7201

His Asn Ile Met Ile Lys Ile Thr Phe Pro Asp Gly Ser Val Arg Glu  
 1 5 10 15  
 Tyr Asn Glu Gly Val Asn Gly Leu Gln Ile Ala Glu Ser Ile Ser Ser  
 20 25 30  
 Arg Leu Ala Gln Asp Val Leu Ala Cys Gly Val Asn Gly Glu Ile Tyr  
 35 40 45

Asp Leu Gly Arg Pro Ile Asn Glu Asp Ala Ser Val Val Leu Tyr Lys  
 50 55 60  
 Trp Glu Asp Glu Gln Gly Lys His Ala Phe Trp His Thr Ser Ala His  
 65 70 75 80  
 Leu Leu Ala Glu Ala Leu Gln Glu Leu Tyr Pro Gly Ile Gln Phe Gly  
 85 90 95  
 Ile Gly Pro Ala Ile Glu Asn Gly Phe Tyr Tyr Asp Val Asp Pro Gly  
 100 105 110  
 Glu Ala Val Ile Lys Glu Ala Asp Leu Pro Ala Ile Glu Ala Lys Met  
 115 120 125  
 Ala Glu Leu Val Ala Lys Glu Ala Val Val Arg Arg Asp Ile Ala  
 130 135 140  
 Lys Gly Asp Ala Leu Lys Met Phe Gly Asp Arg Gly Glu Thr Tyr Lys  
 145 150 155 160  
 Cys Glu Leu Ile Ser Glu Leu Glu Asp Gly His Ile Thr Thr Tyr Thr  
 165 170 175  
 Gln Gly Asp Phe Thr Asp Leu Cys Arg Gly Pro His Leu Met Thr Thr  
 180 185 190  
 Ala Pro Ile Lys Ala Ile Lys Leu Thr Ser Val Ala Gly Ala Tyr Trp  
 195 200 205  
 Arg Gly His Glu Asp Arg Lys Met Leu Thr Arg Ile Tyr Gly Ile Thr  
 210 215 220  
 Phe Pro Lys Lys Lys Met Leu Asp Glu Tyr Leu Ala Leu Met Glu Glu  
 225 230 235 240  
 Ala Lys Lys Arg Asp His Arg Lys Ile Gly Lys Glu Met Gln Leu Phe  
 245 250 255  
 Met Phe Ser Asp Thr Val Gly Lys Gly Leu Pro Met Trp Leu Pro Lys  
 260 265 270  
 Gly Thr Ala Leu Arg Leu Arg Leu Gln Asp Phe Leu Arg Arg Ile Gln  
 275 280 285  
 Thr Arg Tyr Asp Tyr Gln Glu Val Ile Thr Pro Pro Ile Gly Asn Lys  
 290 295 300  
 Leu Leu Tyr Val Thr Ser Gly His Tyr Ala Lys Tyr Gly Lys Asp Ala  
 305 310 315 320  
 Phe Gln Pro Ile His Thr Pro Glu Glu Gly Glu Tyr Phe Leu Lys  
 325 330 335  
 Pro Met Asn Cys Pro His His Cys Glu Ile Tyr Lys Asn Phe Pro Arg  
 340 345 350  
 Ser Tyr Lys Asp Leu Pro Leu Arg Ile Ala Glu Phe Gly Thr Val Cys  
 355 360 365  
 Arg Tyr Glu Gln Ser Gly Glu Leu His Gly Leu Thr Arg Val Arg Ser  
 370 375 380  
 Phe Thr Gln Asp Asp Ala His Ile Phe Cys Arg Pro Asp Gln Val Lys  
 385 390 395 400  
 Gly Glu Phe Leu Arg Val Met Asp Ile Ile Ser Ile Val Phe Arg Ser  
 405 410 415  
 Met Asp Phe Asp Asn Phe Glu Ala Gln Ile Ser Leu Arg Asp Lys Val  
 420 425 430  
 Asn Arg Glu Lys Tyr Ile Gly Ser Asp Glu Asn Trp Glu Lys Ala Glu  
 435 440 445  
 Gln Ala Ile Ile Glu Ala Cys Glu Glu Lys Gly Leu Lys Ala Lys Ile  
 450 455 460  
 Glu Tyr Gly Glu Ala Ala Phe Tyr Gly Pro Lys Leu Asp Phe Met Val  
 465 470 475 480  
 Lys Asp Ala Ile Gly Arg Arg Trp Gln Leu Gly Thr Ile Gln Val Asp  
 485 490 495  
 Tyr Asn Leu Pro Glu Arg Phe Glu Leu Glu Tyr Met Gly Ser Asp Asn  
 500 505 510  
 Gln Lys His Arg Pro Val Met Ile His Arg Ala Pro Phe Gly Ser Met

515	520	525
Glu Arg Phe Val Ala Val Leu Ile Glu His Thr Ala Gly Lys Phe Pro		
530	535	540
Leu Trp Leu Thr Pro Glu Gln Val Val Ile Leu Pro Ile Ser Glu Lys		
545	550	555
Phe Asn Glu Tyr Ala Glu Lys Val Lys Thr Tyr Leu Lys Met Lys Glu		560
565	570	575
Ile Arg Ala Ile Val Asp Asp Arg Asn Glu Lys Ile Gly Arg Lys Ile		
580	585	590
Arg Asp Asn Glu Met Lys Arg Ile Pro Tyr Met Leu Ile Val Gly Glu		
595	600	605
Lys Glu Ala Glu Asn Gly Glu Val Ser Val Arg Arg Gln Gly Glu Gly		
610	615	620
Asp Lys Gly Thr Met Lys Phe Glu Glu Phe Gly Glu Ile Leu Asn Glu		
625	630	635
Glu Val Gln Asn Met Ile Asn Lys Trp		640
	645	

&lt;210&gt; 7202

&lt;211&gt; 421

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7202

Lys Arg Leu Ile Ala Asn Tyr Thr Phe Ile His Leu Ile Ile Ile Asn		
1	5	10
Met Arg Gln Lys Ser Leu Leu Leu Leu Pro Phe Leu Leu Leu Ser		15
20	25	30
Cys Gly Gly Lys Lys Asn Ser Gly Gln Leu Ser Asp Thr Ala Val Gln		
35	40	45
Ile Val Lys Pro Glu Phe Pro Gln Ile Val Pro Phe Glu Thr Gly Ile		
50	55	60
Glu Thr Glu Gln Glu Ile Leu Leu Ser Glu Ile Ala Asp Ser Ile Arg		
65	70	75
Tyr Ile Pro Leu Glu Thr Asn Asn Lys Cys Leu Ile Arg Gly Leu Lys		80
85	90	95
Gly Ser Asn Ile Ile Arg Thr Lys Glu Tyr Phe Phe Leu Pro Trp Ile		
100	105	110
Asp Lys Leu Phe Gln Tyr Thr Lys Asp Gly Lys Phe Ile Arg Thr Leu		
115	120	125
Gly Arg Lys Gly Gly Pro Gly Glu Phe Asn Trp Ile Met Gln Ile		
130	135	140
Asp Val Asp Glu Lys Lys Gly Leu Val Tyr Met Leu Thr Thr Thr Gly		
145	150	155
Lys Ile Asn Ile Tyr Ser Met Glu Thr Gly Lys Phe Ile Arg Ala Met		160
165	170	175
Lys Val Pro Asn Ile Glu Val Ser Glu Phe Ala Met Leu Arg Val Gln		
180	185	190
Asp Thr Ile Ala Ala Thr Phe Met Arg Asn Asn Asn Gly Lys Arg Lys		
195	200	205
Glu Arg Ile Tyr Leu Ser Asn Leu Lys Gly Asp Thr Leu Lys Ile Phe		
210	215	220
Asn Arg Trp Asp Leu Phe Asp Leu Asn Ser Lys Tyr Arg Trp Met Ile		
225	230	235
Ser Ser Asp Ile Asp Arg Tyr Met Phe His Tyr Lys Ser His Thr Cys		240
245	250	255
Tyr Lys Glu Tyr Tyr Asn Asp Thr Leu Phe Thr Ile Thr Gln Glu Thr		
260	265	270
Leu Glu Pro Arg Tyr Ile Phe Gln Met Gly Lys Tyr Ser Leu Pro Ile		

275	280	285
Glu Cys Arg Phe Glu Tyr Leu Asn Gly Asp Gly Lys		Arg Phe Gln Glu
290	295	300
Val Ala Ala Pro Tyr Ile Gln Tyr Asn Thr Ile	Glu Thr Asp Ser	Tyr
305	310	315
Ile Phe Met Pro Tyr Ser Asn Trp Ala Gly	Glu Lys Ala Gln Glu	Lys
325	330	335
Gln Met Ala Ile Tyr Asp Lys Lys Ala Lys Asn Cys	Phe Lys Val Ser	
340	345	350
Thr Gly His Ile Lys Asn Asp Leu Thr Pro Gly	Leu Pro Leu Arg Pro	
355	360	365
Ile Thr Ala Leu Asp Ser His Thr Leu Leu Tyr	Val Trp Glu Ala Pro	
370	375	380
Glu Leu Leu Glu Lys Ala Glu Lys Thr Pro Ser	Ile Leu Gln Ile Glu	
385	390	395
Pro Leu Lys Gly Leu Lys Glu Asp Asp Asn	Pro Val Met Met Ile Val	
405	410	415
Tyr Leu Lys Gln Pro		
420		

&lt;210&gt; 7203

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7203

Leu Asn Leu Val Asp Asn Lys Lys Gln	Thr Gly Ser Lys Arg Tyr	Leu	
1	5	10	15
Met Lys Asn Asp Ser Met Lys Ser Gln	Tyr Arg Ile Asn Glu Gln	Ile	
20	25	30	
Arg Ala Lys Glu Val Arg Ile Val	Gly Asp Asp Val Glu Pro	Lys Val	
35	40	45	
Tyr Pro Ile Phe Gln Ala Leu Lys	Leu Ala Glu Glu Lys Glu	Leu Asp	
50	55	60	
Leu Val Glu Ile Ser Pro Asn Ala Gln	Pro Pro Val Cys Arg	Ile Ile	
65	70	75	80
Asp Tyr Ser Lys Phe Leu Tyr Gln Leu	Lys Lys Arg Gln Lys Glu Gln		
85	90	95	
Lys Ala Lys Gln Val Lys Val Asn Val	Lys Glu Ile Arg Phe Gly	Pro	
100	105	110	
Gln Thr Asp Asp			
115			

&lt;210&gt; 7204

&lt;211&gt; 74

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7204

Tyr Ser Lys Ser Lys Cys Val Arg Phe Met	Lys Ile Ala Glu Ile Lys		
1	5	10	15
Glu Met Ser Thr Asn Asp Leu Val	Glu Arg Val Glu Ala Glu Val	Val	
20	25	30	
Asn Tyr Asn Gln Met Val Ile Asn His	Ser Ile Ser Pro Leu Glu Asn		
35	40	45	
Pro Ala Gln Ile Lys Gln Leu Arg Arg	Thr Ile Ala Arg Met Arg Thr		
50	55	60	
Glu Leu Arg Gln Arg Glu Leu Asn Asn	Lys		
65	70		

<210> 7205  
<211> 146  
<212> PRT  
<213> B.fragilis

<400> 7205  
Glu Thr Met Leu Gln Pro Lys Lys Thr Lys Phe Arg Arg Gln Gln Lys  
1 5 10 15  
Gly Arg Ala Lys Gly Asn Ala Gln Arg Gly Asn Gln Leu Ala Phe Gly  
20 25 30  
Ser Phe Gly Ile Lys Ala Leu Glu Thr Lys Trp Ile Thr Gly Arg Gln  
35 40 45  
Ile Glu Ala Ala Arg Ile Ala Val Thr Arg Tyr Met Gln Arg Gln Gly  
50 55 60  
Gln Ile Trp Ile Arg Ile Phe Pro Asp Lys Pro Ile Thr Arg Lys Pro  
65 70 75 80  
Ala Asp Val Arg Met Gly Lys Gly Lys Ser Pro Glu Gly Phe Val  
85 90 95  
Ala Pro Val Thr Pro Gly Arg Ile Ile Glu Ala Glu Gly Val Ser  
100 105 110  
Tyr Glu Ile Ala Lys Glu Ala Leu Arg Leu Ala Ala Gln Lys Leu Pro  
115 120 125  
Ile Thr Thr Lys Phe Val Val Arg Arg Asp Tyr Asp Ile Gln Asn Gln  
130 135 140  
Asn Ala  
145

<210> 7206  
<211> 244  
<212> PRT  
<213> B.fragilis

<400> 7206  
Met Gly Gln Lys Val Asn Pro Ile Ser Asn Arg Leu Gly Ile Ile Arg  
1 5 10 15  
Gly Trp Asp Ser Asn Trp Tyr Gly Gly Asn Asp Tyr Gly Asp Ser Leu  
20 25 30  
Leu Glu Asp Ser Lys Ile Arg Lys Tyr Leu Asn Ala Arg Leu Ala Lys  
35 40 45  
Ala Ser Val Ser Arg Ile Val Ile Glu Arg Thr Leu Lys Leu Val Thr  
50 55 60  
Ile Thr Val Cys Thr Ala Arg Pro Gly Ile Ile Gly Lys Gly Gly  
65 70 75 80  
Gln Glu Val Asp Lys Leu Lys Glu Glu Leu Lys Lys Val Thr Asp Lys  
85 90 95  
Asp Ile Gln Ile Asn Ile Phe Glu Val Lys Arg Pro Glu Leu Asp Ala  
100 105 110  
Val Ile Val Ala Asn Asn Ile Ala Arg Gln Val Glu Gly Lys Ile Ala  
115 120 125  
Tyr Arg Arg Ala Ile Lys Met Ala Ile Ala Asn Thr Met Arg Met Gly  
130 135 140  
Ala Glu Gly Ile Lys Ile Gln Ile Ser Gly Arg Leu Asn Gly Ala Glu  
145 150 155 160  
Met Ala Arg Ser Glu Met Tyr Lys Glu Gly Arg Thr Pro Leu His Thr  
165 170 175  
Phe Arg Ala Asp Ile Asp Tyr Cys His Ala Glu Ala Leu Thr Lys Val  
180 185 190  
Gly Leu Leu Gly Ile Lys Val Trp Ile Cys Arg Gly Glu Val Phe Gly

195	200	205
Lys Arg Glu Leu Ala Pro Asn Phe Thr Gln Ser Lys	Glu Ser Gly Arg	
210	215	220
Gly Asn Asn Gly Gly Asn Asn Gly Gly Gly	Lys Asn Phe Lys Arg Lys	
225	230	235
Lys Asn Asn Arg		240

<210> 7207  
<211> 210  
<212> PRT  
<213> B.fragilis

<400> 7207

Lys Ile Met Glu Val Asn Val Tyr Asn Ile Lys Gly Glu Asp Thr Gly		
1 5 10 15		
Arg Lys Val Thr Leu Asn Glu Ser Ile Phe Gly Ile Glu Pro Asn Asp		
20 25 30		
His Ala Ile Tyr Leu Asp Val Lys Gln Phe Met Ala Asn Gln Arg Gln		
35 40 45		
Gly Thr His Lys Ser Lys Glu Arg Ser Glu Ile Ser Gly Ser Thr Arg		
50 55 60		
Lys Ile Gly Arg Gln Lys Gly Gly Gly Ala Arg Arg Gly Asp Met		
65 70 75 80		
Asn Ser Pro Val Leu Val Gly Gly Arg Val Phe Gly Pro Lys Pro		
85 90 95		
Arg Asp Tyr Tyr Phe Lys Leu Asn Lys Lys Val Lys Thr Leu Ala Arg		
100 105 110		
Lys Ser Ala Leu Ser Tyr Lys Ala Gln Asp Asn Ala Ile Val Val Val		
115 120 125		
Glu Asp Phe Asn Phe Glu Ala Pro Lys Thr Lys Val Phe Val Glu Met		
130 135 140		
Thr Lys Asn Leu Lys Val Ser Asp Lys Lys Leu Leu Val Val Leu Pro		
145 150 155 160		
Glu Ala Asn Lys Asn Val Tyr Leu Ser Ala Arg Asn Ile Glu Gly Ala		
165 170 175		
Asn Val Gln Thr Ile Ser Gly Leu Asn Thr Tyr Arg Val Leu Asn Ala		
180 185 190		
Gly Val Val Val Leu Thr Glu Ser Ser Leu Lys Ala Ile Asp Asn Ile		
195 200 205		
Leu Ile		
210		

<210> 7208  
<211> 90  
<212> PRT  
<213> B.fragilis

<400> 7208

Thr Met Ser Arg Ser Leu Lys Lys Gly Pro Tyr Ile Asn Val Lys Leu		
1 5 10 15		
Glu Lys Lys Val Leu Ala Met Asn Glu Ser Gly Lys Lys Val Val Val		
20 25 30		
Lys Thr Trp Ser Arg Ala Ser Met Ile Ser Pro Asp Phe Val Gly His		
35 40 45		
Thr Val Ala Val His Asn Gly Asn Lys Phe Ile Pro Val Tyr Val Thr		
50 55 60		
Glu Asn Met Val Gly His Lys Leu Gly Glu Phe Ala Pro Thr Arg Thr		
65 70 75 80		

Phe Arg Gly His Ala Gly Asn Lys Lys Lys  
85 90

<210> 7209

<211> 279

<212> PRT

<213> B.fragilis

<400> 7209

Gln	Tyr	Leu	Ile	Lys	Met	Ala	Val	Arg	Lys	Phe	Lys	Pro	Thr	Thr	Pro
1					5				10			15			
Gly	Gln	Arg	His	Lys	Ile	Ile	Gly	Thr	Phe	Glu	Glu	Ile	Thr	Ala	Ser
					20			25			30				
Val	Pro	Glu	Lys	Ser	Leu	Val	Tyr	Gly	Lys	Ser	Ser	Gly	Gly	Arg	
					35			40			45				
Asn	Asn	Glu	Gly	Lys	Met	Thr	Met	Arg	Tyr	Leu	Gly	Gly	His	Arg	
					50			55			60				
Lys	Val	Ile	Arg	Ile	Val	Asp	Phe	Lys	Arg	Asn	Lys	Asp	Gly	Val	Pro
					65			70			75			80	
Ala	Ala	Val	Val	Lys	Thr	Ile	Glu	Tyr	Asp	Pro	Asn	Arg	Ser	Ala	Arg
					85			90			95				
Ala	Leu	Leu	Phe	Tyr	Ala	Asp	Gly	Glu	Lys	Arg	Tyr	Ile	Ile	Ala	Pro
					100			105			110				
Asn	Gly	Leu	Gln	Val	Gly	Ala	Thr	Leu	Met	Ser	Gly	Glu	Asn	Ala	Ala
					115			120			125				
Pro	Glu	Ile	Gly	Asn	Ala	Leu	Pro	Leu	Gln	Asn	Ile	Pro	Val	Gly	Thr
					130			135			140				
Val	Ile	His	Asn	Ile	Glu	Leu	Arg	Pro	Gly	Gln	Gly	Ala	Ala	Leu	Val
					145			150			155			160	
Arg	Ser	Ala	Gly	Asn	Phe	Ala	Gln	Leu	Thr	Ser	Arg	Glu	Gly	Lys	Tyr
					165			170			175				
Cys	Val	Ile	Lys	Leu	Pro	Ser	Gly	Glu	Val	Arg	Gln	Ile	Leu	Ser	Thr
					180			185			190				
Cys	Lys	Ala	Thr	Ile	Gly	Ser	Val	Gly	Asn	Ser	Asp	His	Gly	Leu	Glu
					195			200			205				
Ser	Ser	Gly	Lys	Ala	Gly	Arg	Ser	Arg	Trp	Gln	Gly	Arg	Arg	Pro	Arg
					210			215			220				
Asn	Arg	Gly	Val	Val	Met	Asn	Pro	Val	Asp	His	Pro	Met	Gly	Gly	
					225			230			235			240	
Glu	Gly	Arg	Ala	Ser	Gly	Gly	His	Pro	Arg	Ser	Arg	Lys	Gly	Leu	Tyr
					245			250			255				
Ala	Lys	Gly	Leu	Lys	Thr	Arg	Ala	Pro	Lys	Lys	Gln	Ser	Ser	Lys	Tyr
					260			265			270				
Ile	Ile	Glu	Arg	Arg	Lys	Lys									
					275										

<210> 7210

<211> 97

<212> PRT

<213> B.fragilis

<400> 7210

Ile	Met	Gly	Ile	Ile	Lys	Pro	Leu	Val	Thr	Glu	Lys	Met	Thr	Ala
1						5			10			15		
Ile	Thr	Asp	Lys	Leu	Asn	Arg	Phe	Gly	Phe	Ile	Val	Arg	Pro	Glu
						20			25			30		
Asn	Lys	Leu	Glu	Ile	Lys	Ser	Glu	Val	Glu	Ala	Leu	Tyr	Asn	Val
						35			40			45		
Val	Val	Asp	Val	Asn	Thr	Val	Lys	Tyr	Ala	Gly	Lys	Asn	Lys	Ser

50	55	60
Tyr	Thr Lys Ala Gly Ile Ile Asn Gly Arg Thr Asn Ala Phe Lys Lys	
65	70	75
Ala Ile Val Thr Leu Lys Glu Gly Asp Thr Ile Asp Phe Tyr Ser Asn		80
85	90	95
Ile		

<210> 7211  
<211> 64  
<212> PRT  
<213> B.fragilis

<400> 7211  
Thr Ala Thr Val Trp Pro Thr Lys Ser Gly Glu Ile Ile Glu Ala Leu  
1           5           10           15  
Asp Gln Val Leu Thr Thr Phe Leu Pro Asp Ser Phe Ile Ala Ser  
20           25           30  
Thr Phe Phe Ser Ser Phe Thr Leu Ile Tyr Gly Pro Phe Phe Asn Glu  
35           40           45  
Arg Leu Ile Val Tyr Ser Ile Asn Gln Ile Thr Phe Phe Ser Gln  
50           55           60

<210> 7212  
<211> 89  
<212> PRT  
<213> B.fragilis

<400> 7212  
Met Ile Ser Leu Met Glu Ala Arg Asn Leu Arg Lys Glu Arg Thr Gly  
1           5           10           15  
Val Val Leu Ser Asn Lys Met Glu Lys Thr Ile Thr Val Ala Ala Lys  
20           25           30  
Phe Lys Glu Lys His Pro Ile Tyr Gly Lys Phe Val Ser Lys Thr Lys  
35           40           45  
Lys Tyr His Ala His Asp Glu Lys Asn Glu Cys Asn Val Gly Asp Thr  
50           55           60  
Val Arg Ile Met Glu Thr Arg Pro Leu Ser Lys Thr Lys Arg Trp Arg  
65           70           75           80  
Leu Val Glu Ile Ile Glu Arg Ala Lys  
85

<210> 7213  
<211> 143  
<212> PRT  
<213> B.fragilis

<400> 7213  
Asn Asn Lys Val Ile Asn Ile Met Gly Ala Arg Lys Lys Ile Ser Ala  
1           5           10           15  
Glu Lys Arg Lys Glu Ala Leu Lys Thr Met Tyr Phe Ala Lys Leu Gln  
20           25           30  
Asn Val Pro Thr Ser Pro Arg Lys Met Arg Leu Val Ala Asp Met Ile  
35           40           45  
Arg Gly Met Glu Val Asn Arg Ala Leu Gly Val Leu Lys Phe Ser Ser  
50           55           60  
Lys Glu Ala Ala Ala Arg Val Glu Lys Leu Leu Arg Ser Ala Ile Ala  
65           70           75           80  
Asn Trp Glu Gln Lys Asn Glu Arg Lys Ala Glu Ser Gly Glu Leu Phe

85	90	95
Val Thr Lys Ile Phe Val Asp Gly Gly Ala Thr Leu Lys Arg Met Arg		
100	105	110
Pro Ala Pro Gln Gly Arg Gly Tyr Arg Ile Arg Lys Arg Ser Asn His		
115	120	125
Val Thr Leu Phe Val Gly Ser Lys Ser Asn Asn Glu Asp Gln Asn		
130	135	140

&lt;210&gt; 7214

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (245)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7214

Pro Gly Asp Pro Val Lys Val Thr Gln Lys Gln Asn His Gly Met Ala			
1	5	10	15
Met Arg Lys Thr Gly Tyr Ile Thr Ile Leu Leu Thr Gly Phe Leu Ala			
20	25	30	
Thr Leu Leu Leu Gly Ser Cys Ser Thr Asp Asp Val Ala Glu Leu Pro			
35	40	45	
Leu Glu Glu Gly Val Pro Val Arg Phe Glu Ile Lys Arg Asp Gly Ile			
50	55	60	
Met Ser Arg Ala Pro Gly Asp Ala Ala Leu Ser Val Asn Arg Ile Leu			
65	70	75	80
Ile Leu Pro Phe Arg Lys Thr Asp Glu Ala Ser Ser Asn Asp Ala Ala			
85	90	95	
Asn Phe Ile Pro Glu Tyr Ser Ala Ala Arg Gln Leu Asp Val Asn Ser			
100	105	110	
Phe Pro Ala Val Val Thr Met Leu Thr Leu Ser Ala Ala Ser Thr Tyr			
115	120	125	
Gln Leu Leu Val Ile Gly Tyr Asn Arg Ser Asp Tyr Asp Phe Thr Gly			
130	135	140	
Gly Gly Gly Ala Thr Lys Arg Phe Asn Ile Gly Ser Thr Asp Thr Pro			
145	150	155	160
Ala Thr Leu Ala Asn Leu Tyr Leu Gln Pro Val Asn Pro Thr Val Val			
165	170	175	
Pro Glu Phe Phe Ser Cys Phe Gly Asn Gly Tyr Arg Gly Ala Thr Leu			
180	185	190	
Val Gly Pro Ile Phe Lys Pro Ser Gln Ile Asn Tyr Val Thr Gly Thr			
195	200	205	
Leu Lys Arg Leu Val Ser Gly Phe Thr Leu Glu Val Thr Asn Val Pro			
210	215	220	
Ala Tyr Val Asn Ser Met Thr Cys Leu His His Gly Ala Gly Arg Ile			
225	230	235	240
Arg Gly Gly Ser Xaa			
245			

&lt;210&gt; 7215

&lt;211&gt; 400

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7215

Ser Phe His Pro Arg Gly Glu Asp Val Ser Trp Leu Ser Leu Phe Asp

1	5	10	15												
Ile	Gly	Ile	Gly	Asn	Gly	Leu	Lys	Asn	Lys	Leu	Thr	Glu	Ser	Leu	Ala
		20				25					30				
Val	Asn	Asn	Ile	Glu	Tyr	Ser	Arg	Lys	Leu	Val	Ser	Thr	Ser	Tyr	Val
		35				40					45				
Tyr	Ser	Ala	Leu	Ile	Phe	Ser	Val	Ile	Leu	Val	Ile	Ser	Leu	Ile	Ile
		50				55					60				
Asn	Cys	Phe	Ile	Lys	Trp	Asn	Leu	Leu	Asn	Val	Glu	Gln	Ile	Phe	
		65				70					75				80
Asn	Asn	Asp	Leu	Thr	Ile	Thr	Ala	Phe	Leu	Val	Ile	Ile	Ala	Phe	Cys
		85									90				95
Val	Arg	Phe	Ile	Leu	Gln	Ile	Ile	Thr	Pro	Val	Leu	Ala	Ala	Thr	Gln
		100									105				110
Asn	Ile	Arg	Phe	Asn	Ser	Leu	Ile	Glu	Phe	Ile	Gly	Gln	Ile	Gly	Ala
		115									120				125
Phe	Ile	Gly	Val	Ile	Leu	Leu	Asn	Tyr	Leu	Gly	Val	Lys	Ser	Ile	Ile
		130									135				140
Ile	Phe	Thr	Ile	Val	Val	Leu	Tyr	Val	Pro	Leu	Ile	Ile	Leu	Phe	Val
		145									150				160
Phe	Ser	Ile	Tyr	Leu	Tyr	Ser	Asn	Lys	Leu	Lys	Glu	Leu	Arg	Pro	Cys
		165									170				175
Ile	Arg	Phe	Ser	Asp	Lys	Gln	His	Phe	Ser	Glu	Ile	Phe	Ser	Leu	Gly
		180									185				190
Ile	Asn	Phe	Phe	Ile	Ile	Gln	Ile	Ser	Ala	Ile	Val	Ile	Phe	Gln	Thr
		195									200				205
Asn	Ser	Phe	Leu	Ile	Ala	Asn	Ser	Phe	Gly	Pro	Ala	Asp	Val	Thr	Lys
		210									215				220
Tyr	Asn	Ile	Val	Phe	Lys	Tyr	Tyr	Asn	Ile	Leu	Ile	Leu	Leu	Trp	Gly
		225									230				240
Ile	Leu	Met	Thr	Pro	Leu	Trp	Pro	Ser	Tyr	Thr	Asn	Ala	Tyr	Ile	Leu
		245									250				255
Gly	Asn	Tyr	Lys	Trp	Ile	Lys	Lys	Ser	Val	Lys	Tyr	Cys	Leu	Phe	Met
		260									265				270
Phe	Leu	Leu	Thr	Ile	Ile	Val	Ala	Val	Ile	Met	Ala	Phe	Val	Gly	Pro
		275									280				285
Ala	Val	Ile	Glu	Tyr	Trp	Leu	Gly	Gln	Asp	Leu	Asn	Ile	Ser	Arg	Ser
		290									295				300
Leu	Leu	Leu	Ala	Met	Leu	Leu	Phe	Ala	Leu	Val	Ser	Ile	Trp	Asn	Asn
		305									310				320
Ile	Phe	Gly	Cys	Val	Val	Gly	Ala	Ile	Gly	Lys	Val	Arg	Leu	Gly	Val
		325									330				335
Tyr	Ser	Thr	Ser	Leu	Ser	Ala	Leu	Ile	Phe	Phe	Pro	Leu	Phe	Tyr	Leu
		340									345				350
Leu	Lys	Ser	Leu	Arg	Leu	Ala	Ile	Glu	Gly	Ala	Ile	Trp	Ser	Met	Ile
		355									360				365
Ile	Cys	Ile	Ser	Leu	Ser	Ala	Phe	Leu	Ser	Pro	Ile	Gln	Ile	Tyr	Tyr
		370									375				380
Phe	Ile	Tyr	Thr	Lys	Lys	Ser	Leu	Phe	Leu	Thr	Lys	Leu	Leu	Ser	
		385									390				395
															400

&lt;210&gt; 7216

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7216

Asn Asn Ser Phe Asn His Ser Glu Ile Ser Ile Leu Lys Pro Arg Tyr

1 5 10 15

Phe Pro Tyr Gly Ser Phe Val Ser Glu Ala Pro Leu Leu Arg Ile Ser

20	25	30
Gln Ile Ser Thr Glu Arg Leu Cys	Ile Cys Phe Ala Met Asn His Tyr	
35	40	45
Tyr Leu Leu Lys Leu Tyr Pro Val Ile Gln Leu Phe Lys		
50	55	60

&lt;210&gt; 7217

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7217

Phe Thr Lys Phe Tyr Pro Met Lys Leu Ile Ile Asn Ala Ser Thr Leu			
1	5	10	15
Ser Gly Thr Gly Val Thr Gln Val Ala Val Ser Phe Ile Glu Glu Cys			
20	25	30	
Lys Arg Phe Glu Glu Asn Tyr Tyr Phe Val Phe Leu Ser Asn His Val			
35	40	45	
Tyr Ser Gln Val Glu Ile Glu Lys Phe Pro Ser Asn Phe Lys Phe Tyr			
50	55	60	
Val Ile Asp Lys His Pro Arg Tyr Phe Ile Glu Gly Tyr Ser Thr Arg			
65	70	75	80
Arg Tyr Leu Arg Thr Met Glu Ala Ile Ile Lys Pro Asp Cys Val Phe			
85	90	95	
Ser Ile Phe Gly Pro Ser Tyr Trp Thr Pro Lys Ala Pro His Leu Met			
100	105	110	
Gly Tyr Ala Tyr Pro His Tyr Val Tyr Pro Glu Ser Pro Val Phe Asp			
115	120	125	
Ile Met Thr Val Lys Asp Lys Ile Arg Phe Cys Leu Tyr Lys Lys Ile			
130	135	140	
His Lys Tyr Phe Leu Lys Asn Gly Phe Tyr Tyr Val Cys Glu Thr			
145	150	155	160
Glu Asp Val Ser Asn Arg Leu Lys Lys Tyr Leu Gly Ile Ser Ser Asp			
165	170	175	
Arg Val Tyr Thr Val Ser Asn Thr Tyr Asn His Tyr Phe Asp Gln Phe			
180	185	190	
Lys Leu Pro Leu Asn Ser Phe Val Glu Lys Asp Val Thr Glu Phe Lys			
195	200	205	
Phe Leu Ser Leu Cys Ser Phe Ala Val His Lys Asn Leu Gln Ile Leu			
210	215	220	
Asn Gln Val Ile Pro Leu Leu Asn Asp Thr Leu Lys Asn Ile Lys Ile			
225	230	235	240
Ile Phe Val Leu Thr Val Asp Ser Lys Ser Phe Lys Tyr Tyr Leu Ser			
245	250	255	
Glu Glu Ala Lys Lys Ser Ile Val Asn Leu Gly Ile Ile Asp Val Ser			
260	265	270	
Lys Cys Pro Gln Leu Tyr Asn Glu Cys Asp Ala Leu Phe Leu Pro Thr			
275	280	285	
Leu Leu Glu Cys Phe Ser Ala Asn Tyr Val Glu Ala Met Lys Met Arg			
290	295	300	
Lys Pro Ile Val Thr Ser Asn Leu Pro Phe Ala Thr Asn Val Cys Lys			
305	310	315	320
Asn Ala Ala Leu Tyr Phe Asp Pro Met Asn Ala His Asp Ile Val Glu			
325	330	335	
Lys Ile Ser Leu Leu Val Arg Asn Lys Gln Leu Tyr Arg Asn Leu Cys			
340	345	350	
Leu Glu Gly Asp Leu Val Leu Lys Gly Phe Lys Thr Ser Gln Glu Arg			
355	360	365	
Ala Lys Ser Tyr Leu Glu Ile Cys Lys Ser Ile Ile Arg Lys Val			

370

375

380

<210> 7218  
<211> 407  
<212> PRT  
<213> B.fraqilis

<400> 7218  
 Ile Lys Ile Thr Leu Ile Ile Met Ile His Val Asp Leu Ser Lys Arg  
 1 5 10 15  
 Asn Ser Ile Phe Ser Leu Ile Leu Val Trp Ile Phe Leu Thr Ser Thr  
 20 25 30  
 Ala Pro Phe Val Phe Phe Arg Trp Pro Gly His Pro Tyr Lys Thr Leu  
 35 40 45  
 Ser Phe Leu Cys Leu Phe Thr Met Val Phe His Leu Asn Val Gly Arg  
 50 55 60  
 Gly Val Lys Arg Val Asp Ser Ser Ile Phe Ala Ile Val Leu Leu Gln  
 65 70 75 80  
 Ile Cys Tyr Tyr Ile Leu Ile Ser Phe Tyr His Ser Asp Phe Lys Asn  
 85 90 95  
 Ile Asn Leu Cys Ile Gln Leu Ile Ser Leu Cys Ile Ile Ile Ser Tyr  
 100 105 110  
 Ile Lys Ile Tyr Val Gly Phe Asp Val Phe Val Lys Ser Phe Ile Trp  
 115 120 125  
 Ile Met Leu Ile Met Gly Val Gly Gly Thr Leu Thr Phe Phe Leu His  
 130 135 140  
 Leu Leu Gly Leu Ile Thr Pro Ile Phe Arg Val Glu Tyr Gly Ser Asp  
 145 150 155 160  
 Ile Ser Tyr Phe Leu Gly Leu Thr Thr Thr Asn Val Phe Phe Asp Ser  
 165 170 175  
 Glu Gly Ile Arg Val Ile Arg Tyr Ala Gly Phe Phe Asp Glu Pro Gly  
 180 185 190  
 Thr Phe Ser Leu Phe Ser Ile Phe Ala Leu Ile Leu Asn Lys Val Tyr  
 195 200 205  
 Phe Asn Asp Lys Asn Lys Glu Leu Leu Leu Ile Leu Val Thr Ile Phe  
 210 215 220  
 Thr Phe Ser Ile Ala Phe Tyr Val Thr Ile Phe Phe Tyr Phe Leu Phe  
 225 230 235 240  
 Phe Tyr Val Thr Lys Lys Asp Met Lys Tyr Val Pro Leu Ile Ile Ser  
 245 250 255  
 Val Val Phe Ile Cys Tyr Leu Ser Leu Gln Asn Ser Asn Gly Gly Ser  
 260 265 270  
 Leu Gly Thr Ile Tyr Lys Leu Thr Phe Glu Arg Leu Asp Phe Ser Glu  
 275 280 285  
 Asp Ala Arg Gly Asn Asn Asn Arg Ala Gly Pro Met Glu Asn Asp Arg  
 290 295 300  
 Arg Ile Phe Phe Asn Asn Phe Leu Leu Gly Val Gly Leu Gly Ser Glu  
 305 310 315 320  
 Glu Val Glu Gly Ser Asn Val Phe Ala Val Phe Ala Arg Tyr Gly Val  
 325 330 335  
 Ile Gly Ser Phe Phe Tyr Ala Phe Leu Ile Tyr Leu Leu Leu  
 340 345 350  
 Ile Val Asn Val Pro Leu Glu Asn Arg Lys Leu Phe Phe Lys Ile Tyr  
 355 360 365  
 Ile Val Ile Leu Leu Thr Phe Phe Tyr Arg Pro Glu Leu Ser Ser Val  
 370 375 380  
 Met Val Leu Leu Val Phe Tyr Met Leu Ile Asp Tyr Ile Lys Ser Lys  
 385 390 395 400  
 Lys Tyr Leu Asn Cys Lys Asn

&lt;210&gt; 7219

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7219

Gly	Lys	Met	Thr	Lys	Ala	Asp	Ile	Val	Asn	Glu	Ile	Ala	Lys	Asn	Thr
1				5				10					15		
Gly	Val	Asp	Lys	Val	Thr	Val	Leu	Thr	Thr	Val	Glu	Ala	Phe	Met	Asp
	20					25							30		
Ala	Val	Lys	Asp	Ser	Leu	Ser	Lys	Asp	Glu	Asn	Val	Tyr	Leu	Arg	Gly
	35				40							45			
Phe	Gly	Ser	Phe	Val	Val	Lys	Lys	Arg	Ala	Gln	Lys	Thr	Ala	Arg	Asn
	50				55						60				
Ile	Ser	Lys	Asn	Thr	Thr	Ile	Ile	Ile	Pro	Glu	His	Asn	Ile	Pro	Ala
65					70				75				80		
Phe	Lys	Pro	Ala	Lys	Thr	Phe	Thr	Leu	Ser	Val	Lys	Lys			
	85					90									

&lt;210&gt; 7220

&lt;211&gt; 309

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7220

Tyr	Met	Asn	Ala	Leu	Val	Thr	Asn	Pro	Leu	Val	Ser	Ile	Val	Ile	Pro
1				5				10					15		
Val	Tyr	Asn	Arg	Glu	Leu	Tyr	Ile	Glu	Asp	Ala	Ile	Lys	Ser	Ala	Ile
	20					25						30			
Ser	Gln	Thr	Tyr	Gln	Asn	Ile	Glu	Ile	Ile	Ile	Val	Asp	Asn	Cys	Ser
	35				40						45				
Thr	Asp	Leu	Thr	Trp	Ser	Ile	Leu	Asn	Thr	Trp	Ala	Ser	Lys	Asp	His
	50				55					60					
Arg	Ile	Lys	Ile	Tyr	Gln	Asn	Lys	Thr	Asn	Ile	Gly	Pro	Val	Leu	Asn
65					70				75				80		
Trp	Asn	Glu	Cys	Phe	Lys	His	Ala	Ser	Gly	Glu	Tyr	Ile	Lys	Ile	Leu
	85					90						95			
Trp	Ser	Asp	Asp	Trp	Met	Ala	Leu	Asp	Phe	Ile	Glu	Arg	Ala	Val	Asn
	100					105						110			
Leu	Ile	Asp	Glu	Lys	Ser	Ala	Phe	Val	Ile	Ser	Asn	His	Lys	Ile	Val
	115					120						125			
Ser	Glu	Asn	Gly	Ile	Val	Asp	Asn	Val	Lys	Tyr	Lys	Lys	Gln	Lys	Tyr
	130					135					140				
Thr	Arg	Lys	Glu	Tyr	Leu	Tyr	Asn	Ile	Leu	Phe	Gln	Asn	Ile	Glu	Lys
145					150				155				160		
Phe	Pro	Leu	Ser	Pro	Gly	Cys	Ala	Leu	Phe	Arg	Thr	Lys	Asp	Leu	Asn
	165					170						175			
Asp	Asn	Phe	Val	Ile	Asp	Ile	Pro	Asn	Thr	Asp	Gly	Leu	Asp	Ser	Lys
	180				185							190			
Lys	Asn	Gly	Ala	Gly	Asn	Asp	Leu	Leu	Ile	Phe	Leu	Asn	Ile	Val	Leu
	195					200						205			
Asn	Tyr	Ala	His	Ile	Ser	Ile	Leu	Gln	Tyr	Asp	Gly	Ser	Phe	Phe	Arg
210					215						220				
Ala	His	Lys	Glu	Ser	Phe	Ser	Ile	Gln	Asn	Gln	Leu	Glu	Leu	Tyr	Tyr
225					230				235				240		
Glu	Trp	Ala	Lys	Val	Tyr	Phe	Ile	Gln	Lys	Lys	Leu	Asn	Lys	Thr	Tyr
	245					250						255			

Tyr Ser Asn Ile Lys Lys Ile Met Phe Trp Gln Gln Ile Asn Lys Gly  
           260                 265                 270  
 Asn Lys Ile Tyr His Asn Leu Tyr Val Cys Leu Lys Tyr Asn Tyr Trp  
           275                 280                 285  
 Met Pro Leu Ser Phe Cys Ile Ile Ile Leu Gly Gly Val Leu Asn Ser  
           290                 295                 300  
 Leu Arg Asn Arg Lys  
           305

&lt;210&gt; 7221

&lt;211&gt; 321

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7221

Arg Ser Tyr Leu Glu Tyr Asp Asn Leu Tyr Leu Ile Lys Arg Phe Ser  
       1              5                 10                 15  
 Ile Pro Tyr Ser Asn Ile Leu Phe Tyr Leu Tyr Glu Glu Lys Val Phe  
       20                 25                 30  
 Ile Leu Asn Glu Ile Ile Glu Leu Met Asn Asn Leu Leu Ser Ile Phe  
       35                 40                 45  
 Ile Pro Thr Tyr Asn Arg Cys Asn Val Leu Asp Thr Val Leu Asp Arg  
       50                 55                 60  
 Val Ile Ser Ser Val Lys Glu Tyr Asp Val Cys Val Gln Val Tyr Asp  
       65                 70                 75                 80  
 Asn Cys Ser Leu Asp Lys Thr Glu Asn Ile Val Cys Ala Lys Gln Lys  
       85                 90                 95  
 Leu Tyr Pro Tyr Ile Phe Tyr Cys Lys Asn Glu Thr Asn Ile Gly Leu  
       100                105                110  
 Asp Arg Asn Met Leu Asn Val Leu Asn Lys Gln Val Ser Lys Tyr Thr  
       115                120                125  
 Leu Met Leu Gly Asp Asp Asp Phe Leu Val Asp Asp Phe Tyr Lys Lys  
       130                135                140  
 Ile Glu Ser Tyr Leu Lys Gln Cys Phe Asp Phe Ile Val Leu Ser Val  
       145                150                155                160  
 Asp Ser Thr Phe Lys Thr Thr Val Tyr Val Glu Lys Leu Ser Ala Phe  
       165                170                175  
 Ser Phe Leu Trp Asp Lys Met Pro Tyr Gly Thr Val Ile Ile Arg Asn  
       180                185                190  
 Gly Leu Ile Asn Arg Cys Asp Val Glu Lys Tyr Ile Gly Thr Ser His  
       195                200                205  
 Ala Tyr Ser Ala Ile Pro Trp Glu Ser Met Leu Ser Ser Asn Ala Ile  
       210                215                220  
 Gly Lys Cys Leu Phe Tyr Ser Asp Tyr Ile Leu Val Glu Leu Gly Glu  
       225                230                235                240  
 Ile Glu Lys Thr Trp Lys Ser Asn Ala Ile Asp Ile Phe Met Tyr Gln  
       245                250                255  
 Ile Pro Leu Trp Phe Ser Ile Leu Pro Glu Gln Tyr Ile Met Lys Asn  
       260                265                270  
 Lys Ile Tyr Arg Gly Tyr Met Arg Asn Leu Phe Ser Leu Arg Asn Ile  
       275                280                285  
 Trp Ser Leu Tyr Arg Arg Tyr Asn Phe Lys Ser Leu Ser Ser Met Arg  
       290                295                300  
 Phe Leu Ser Asn Ile Asn Lys Phe Lys Phe Val Leu Ile Ser Arg Leu  
       305                310                315                320  
 Gln

&lt;210&gt; 7222

<211> 316  
<212> PRT  
<213> B.fragilis

<400> 7222

Leu	Met	Tyr	Tyr	Leu	Ile	Ile	Leu	Val	Leu	Leu	Phe	Leu	Ala	Glu	Leu
1															15
Phe	Tyr	Phe	His	Ile	Ala	Asp	Lys	Tyr	Asn	Ile	Ile	Asp	Lys	Pro	Asn
															30
Glu	Arg	Ser	Ser	His	Thr	Arg	Ile	Thr	Leu	Arg	Gly	Gly	Gly	Ile	Ile
															45
Phe	Tyr	Leu	Gly	Ala	Leu	Ala	Tyr	Phe	Leu	Thr	Asn	Gln	Phe	Glu	Tyr
															60
Pro	Trp	Phe	Met	Leu	Ala	Leu	Thr	Leu	Val	Thr	Val	Ile	Ser	Phe	Val
															80
Asp	Asp	Ile	Arg	Ser	Ile	Ser	Gln	Gly	Leu	Arg	Leu	Val	Phe	His	Phe
															95
Thr	Ala	Met	Gly	Leu	Met	Phe	Tyr	Gln	Trp	Glu	Leu	Phe	Thr	Leu	Pro
															110
Trp	Trp	Thr	Val	Val	Val	Ala	Leu	Ile	Ala	Cys	Thr	Gly	Ile	Ile	Asn
															125
Ala	Tyr	Asn	Phe	Met	Asp	Gly	Ile	Asn	Gly	Ile	Thr	Gly	Gly	Tyr	Ser
															140
Leu	Val	Val	Leu	Gly	Ser	Leu	Ala	Phe	Ile	Asn	His	Trp	Val	Val	Ser
															160
Phe	Val	Glu	Pro	Gly	Leu	Ile	Tyr	Thr	Met	Leu	Cys	Ala	Val	Leu	Val
															175
Phe	Asn	Phe	Asn	Phe	Arg	Lys	Arg	Ala	Lys	Cys	Phe	Ala	Gly	Asp	
															190
Val	Gly	Ser	Val	Ser	Ile	Ala	Phe	Ile	Ile	Leu	Phe	Leu	Ile	Gly	Lys
															205
Leu	Ile	Ile	Asp	Thr	Glu	Asp	Phe	Ser	Trp	Ile	Val	Leu	Leu	Ala	Val
															220
Tyr	Gly	Ala	Asp	Ser	Val	Leu	Thr	Ile	Val	His	Arg	Leu	Met	Leu	His
															240
Glu	Asn	Ile	Gly	Leu	Pro	His	Arg	Lys	His	Leu	Tyr	Gln	Ile	Met	Ala
															255
Asn	Glu	Leu	Lys	Ile	Pro	His	Val	Ala	Val	Ser	Leu	Thr	Tyr	Met	Val
															270
Val	Gln	Gly	Val	Val	Val	Ala	Gly	Tyr	Leu	Val	Leu	Arg	Glu	Tyr	Gly
															285
Tyr	Val	Tyr	Leu	Ala	Gly	Ser	Ile	Leu	Leu	Leu	Ser	Ile	Leu	Tyr	Leu
															300
Leu	Phe	Met	Lys	Arg	Phe	Phe	His	Leu	His	Gln	Phe				
305															315

&lt;210&gt; 7223

<211> 320  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7223

Met	Asn	Ile	Leu	Ile	Ser	Gly	Ile	Cys	Gly	Phe	Val	Gly	Thr	Asn	Leu
1															15
Ile	Lys	Val	Leu	Lys	Lys	Val	His	Thr	Leu	Tyr	Gly	Leu	Asp	Ile	Ile
															30
Asp	Val	Glu	Lys	Gln	Met	Asp	Ile	Lys	Arg	Phe	Ser	Trp	Thr	Glu	Phe
															45
Glu	Pro	Ser	Ala	Phe	Pro	Leu	Gln	Thr	Leu	Pro	Lys	Phe	Asp	Val	Ile

50	55	60
Ile His Leu Ala Gly Lys Ala His Asp Thr Lys Lys Gln Ser Ala Ala		
65	70	75
Gln Ser Tyr Phe Asp Ile Asn Thr Gly Leu Thr Gln Lys Ile Phe Asp		80
85	90	95
Phe Phe Leu Glu Ser Ser Ala Lys Lys Phe Ile Phe Phe Ser Ser Val		
100	105	110
Lys Ala Ala Ala Asp Ser Val Val Gly Asp Val Leu Thr Glu Asp Val		
115	120	125
Ile Pro Thr Pro Val Gly Pro Tyr Gly Glu Ser Lys Ile Gln Ala Glu		
130	135	140
Glu Tyr Ile Lys Lys His Phe Thr Phe Ser Asn Thr Asp Lys Gln Val		
145	150	155
Tyr Ile Leu Arg Pro Cys Met Ile His Gly Pro Gly Asn Lys Gly Asn		160
165	170	175
Leu Asn Leu Leu Tyr Asn Val Val Lys Lys Gly Ile Pro Trp Pro Leu		
180	185	190
Gly Asp Phe Glu Asn Arg Arg Ser Phe Thr Ser Ile Asp Asn Leu Cys		
195	200	205
Tyr Val Ile Glu Gly Leu Leu Thr Lys Asp Val Pro Ser Gly Ile Tyr		
210	215	220
His Met Gly Asp Asp Glu Ala Leu Ser Thr Asn Glu Leu Ile Ala Ile		
225	230	235
Met Cys Glu Val Met Gly Lys Gln Pro His Ile Trp Lys Met Asn Lys		
245	250	255
Arg Phe Met Glu Gly Cys Ala Gly Leu Gly Thr Leu Leu His Leu Pro		
260	265	270
Leu Asn Thr Glu Arg Leu Arg Lys Leu Thr Glu Asn Tyr Val Val Ser		
275	280	285
Asn Thr Lys Ile Lys Val Ala Leu Gly Ile Asp Lys Met Pro Val Thr		
290	295	300
Ala Lys Glu Gly Leu Ile Lys Thr Ile Arg Ser Phe Glu Glu Thr Glu		
305	310	315
		320

&lt;210&gt; 7224

&lt;211&gt; 253

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7224

Lys Val Ile Tyr Tyr Phe Met Asp Lys Ser Gly Ala Asp Pro Leu Phe		
1	5	10
Ser Ile Ile Thr Val Ser Tyr Asn Ala Lys Glu Ser Ile Glu Asp Thr		15
20	25	30
Ile Asn Ser Ile Val Asn Gln Thr Tyr Ser Asn Phe Glu Tyr Ile Ile		
35	40	45
Val Asp Gly Gly Ser Thr Asp Gly Thr Leu Asp Ile Ile Arg Lys Tyr		
50	55	60
Glu Asp Lys Ile Ser Tyr Trp Ile Ser Glu Pro Asp Asn Gly Ile Tyr		
65	70	75
Asp Ala Met Asn Lys Gly Leu Ala Ile Cys Lys Gly Glu Trp Ile Asn		80
85	90	95
Phe Met Asn Ser Gly Asp Leu Phe Tyr Asn Asp His Val Leu Val Asp		
100	105	110
Ile Tyr Arg Tyr Cys Asp Phe Lys Lys Phe His Ile Leu Tyr Gly Lys		
115	120	125
Thr Val Val Lys Glu Thr Gly Arg Val Ile Val Pro Pro Leu Lys Ile		
130	135	140
Arg Lys Lys Tyr Phe Leu Leu Asp Thr Ile Cys His Gln Ser Ile Phe		

145	150	155	160
Phe Asn Arg Ser Ile Phe Met Asp Leu Gly Thr Tyr Ser Leu Asp Tyr			
165	170	175	
Lys Ile Ile Ala Asp Arg Asp Leu Leu Leu Lys Ser Ile Ile Asn Glu			
180	185	190	
Lys Arg Phe Leu Tyr Val Asp Val Val Val Ser Leu Trp Glu Ser Leu			
195	200	205	
Gly Phe Ser Gly Asn Asn Leu Lys Leu Phe Lys Asn Glu Glu Lys Leu			
210	215	220	
Leu Val Asn Arg Asn Phe Asn Thr Val Glu Ile Tyr Phe Ile Arg Ile			
225	230	235	240
Asn Tyr Lys Phe Arg Gln Phe Leu Asn Lys Leu Lys Leu			
245	250		

&lt;210&gt; 7225

&lt;211&gt; 239

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7225

Arg Ala Phe His Arg Gly Arg Ser Phe Leu Ile Ser Ala Phe Ala Met			
1	5	10	15
Ala Leu Leu Arg Glu Tyr Lys Glu Ile Ala Tyr Gln Trp Gly Ile Trp			
20	25	30	
Lys Thr Glu Glu Ser Pro Glu Glu Leu Leu Ala Leu Leu Pro Asp Pro			
35	40	45	
Glu Arg Tyr Glu Gln Gln Leu Thr Arg Phe Ser Ser Pro His Arg Lys			
50	55	60	
Leu Glu Trp Leu Ser Val Arg Val Leu Leu Tyr Gln Leu Leu Gly Glu			
65	70	75	80
Glu Lys Thr Ile Glu Tyr Ala Pro Ser Gly Lys Pro His Leu Ala Asp			
85	90	95	
Ser Ser Tyr Phe Ile Ser Ile Ser His Thr Arg Gly Tyr Val Ala Val			
100	105	110	
Ile Leu Ser Pro Val Ser Glu Val Gly Ile Asp Ile Glu Gln Tyr Gly			
115	120	125	
Gln Arg Val His Lys Val Ala His Lys Tyr Met Arg Pro Asp Glu Leu			
130	135	140	
Ile Ser Glu Tyr Gln Gly Glu Asp Thr Trp Ser Leu Leu Leu His Trp			
145	150	155	160
Ser Ala Lys Glu Val Met Phe Lys Cys Met Asp Thr Ser Glu Val Asp			
165	170	175	
Phe Arg Glu His Leu Arg Ile Met Pro Phe Gln Val Cys Glu His Gly			
180	185	190	
Glu Phe Pro Ala Glu Glu Tyr Arg Thr Glu His Lys Lys Lys Phe Met			
195	200	205	
Ile Arg Tyr Leu Leu His Pro Asp Phe Val Met Thr Trp Gln Val Thr			
210	215	220	
Ser Ala Tyr Ser Val Asn Glu Cys Asp Ile Met Lys Lys Met Gln			
225	230	235	

&lt;210&gt; 7226

&lt;211&gt; 404

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7226

Thr Thr Ile His Gln Lys Glu Ser Gly Lys Ser Arg Cys Ser Ser Val			
1	5	10	15

Glu Asn Gly Ser Arg Tyr Ile Ala Trp Ile Phe Ser Asp His Phe Phe  
     20                 25                 30  
 Ser Tyr Leu Phe Ile Lys Leu Asn Phe Ala Ile Met Lys Lys Leu Met  
     35                 40                 45  
 Phe Leu Val Ala Ala Ser Leu Phe Val Phe Ala Ala Cys Ser Ser Glu  
     50                 55                 60  
 Asp Asp Ser Ser Pro Glu Val Asn Pro Glu Asn Ala Ala Ile Thr Phe  
     65                 70                 75                 80  
 Glu Leu Ser Ala Val Asn Gly Leu Thr Asp Gly Ile Gly Thr Arg Met  
     85                 90                 95  
 Pro Val Tyr Ser Gln Glu Ala Thr Gln His Val Thr Arg Val Ser Val  
    100                105                110  
 Tyr Ala Phe Val Gln Asn Gly Ser Thr Tyr Leu His Gln Lys Thr Tyr  
    115                120                125  
 Asp Ile Thr Gly Trp Thr Asp Gly Thr Thr Phe Lys Arg Phe Ala Val  
    130                135                140  
 Pro Asp Ala Asp Lys Leu Pro Val Gly Val Tyr Lys Phe Leu Ala Val  
    145                150                155                160  
 Gly Arg Asp Ala Thr Asp Arg Phe Ser Val Thr Thr Pro Thr Ser Gly  
    165                170                175  
 Asn Thr Asn Tyr Thr Asp Met Leu Ala Ser Ile Val Asn Ser Gly Asp  
    180                185                190  
 Glu Ser Glu Ile Phe Ala Gly Ser Ala Asp Ala Glu Val Met Ala Gln  
    195                200                205  
 Gly Gly Thr Arg Val Ser Ile Glu Met Thr Arg Lys Val Ala Gly Val  
    210                215                220  
 Leu Gly Tyr Phe Lys Asn Val Pro Gln Val Leu Asn Gly Ser Thr Val  
    225                230                235                240  
 Lys Tyr Leu Arg Leu Lys Val Ser Asn Ser Asn Gln Gln Val Asn Leu  
    245                250                255  
 Thr Asn Gly Val Gly Ile Asn Thr Ala Pro Thr Pro Tyr Asn Ile Ile  
    260                265                270  
 Asp Met Asp Leu Ser Gly Gln Ala Val Ser Asn Gly Val Tyr Val Gly  
    275                280                285  
 Asn Asp Leu Ser Gly Gln Gly Val Val Lys Val Pro Asn Ser Gln Leu  
    290                295                300  
 Gly Gly Ser Phe Tyr Ile Pro Val Ser Gly Val Ser Met Thr Leu Gly  
    305                310                315                320  
 Leu Tyr Asp Ala Ser Gly Val Ala Ile Lys Glu Trp Thr Val Ser Asp  
    325                330                335  
 Thr Asn Ser Ser Gly Ala Thr Gln Phe Asn Leu Met Ala Asn His Phe  
    340                345                350  
 Tyr Ser Leu Gly Val Lys Gly Ala Thr Gly Ser Val Asp Gly Gly Thr  
    355                360                365  
 Pro Gly Asn Pro Gly Asp Asp Ala Pro Val Asp Leu Leu Thr Asp  
    370                375                380  
 Gln Asn Ile Val Ile Thr Ile Ser Pro Ala Trp Glu Leu Ile His Asn  
    385                390                395                400  
 Leu Val Ile Gln

&lt;210&gt; 7227

&lt;211&gt; 453

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7227

Leu Lys Thr Asn Ile Leu Asp Pro Asp Ala Tyr Leu Cys Gln Leu Ala  
 1                  5                  10                 15

Glu Ile Phe Asn Gly Ile Ser Val Asn Thr Pro Ser Leu Ser Ala Ile  
 20 25 30  
 Ile Ala Ile Ile Leu Ala Gly Leu Leu Leu Leu Ala Ser Gly Phe Ala  
 35 40 45  
 Ser Ala Ser Glu Ile Ala Phe Phe Ser Leu Ser Pro Ser Asp Leu Asn  
 50 55 60  
 Asp Ile Glu Glu Gly Asn His Pro Ser Asp Gly Lys Ile Ser Asn Leu  
 65 70 75 80  
 Leu Ala Asp Ser Glu Arg Leu Leu Ala Thr Ile Leu Ile Thr Asn Asn  
 85 90 95  
 Phe Val Asn Val Thr Ile Ile Met Leu Cys Asn Phe Phe Met Asn  
 100 105 110  
 Val Phe Val Phe His Ser Pro Leu Ala Glu Phe Leu Ile Leu Thr Val  
 115 120 125  
 Ile Leu Thr Phe Leu Leu Leu Phe Gly Glu Ile Met Pro Lys Ile  
 130 135 140  
 Tyr Ser Ala Gln Lys Thr Leu Ala Phe Cys Arg Phe Ser Ala Pro Val  
 145 150 155 160  
 Ile Tyr Val Leu Arg Lys Val Phe Ala Pro Ile Ser Ala Val Leu Val  
 165 170 175  
 His Ser Thr Ala Phe Leu Asn Lys His Phe Ala Lys Lys Asn His Asn  
 180 185 190  
 Ile Ser Val Asp Glu Leu Ser His Ala Leu Glu Leu Thr Asp Lys Ala  
 195 200 205  
 Glu Leu Thr Glu Glu Asn Asn Ile Leu Glu Gly Ile Ile Arg Phe Gly  
 210 215 220  
 Gly Glu Thr Ala Lys Glu Val Met Thr Ser Arg Leu Asp Val Val Asp  
 225 230 235 240  
 Leu Asp Ile Arg Thr Pro Phe Lys Asp Val Ile Gln Cys Ile Ile Asp  
 245 250 255  
 Asn Ala Tyr Ser Arg Ile Pro Ile Tyr Ser Gly Thr Arg Asp Asn Ile  
 260 265 270  
 Lys Gly Val Leu Tyr Ile Lys Asp Leu Leu Pro His Leu Asn Lys Gly  
 275 280 285  
 Asp Asn Phe Arg Trp Gln Ser Leu Ile Arg Pro Ala Tyr Phe Val Pro  
 290 295 300  
 Glu Thr Lys Met Ile Asp Asp Leu Leu Arg Asp Phe Gln Ala Asn Lys  
 305 310 315 320  
 Ile His Ile Ala Ile Val Val Asp Glu Phe Gly Gly Thr Ser Gly Ile  
 325 330 335  
 Val Thr Met Glu Asp Ile Ile Glu Glu Ile Val Gly Glu Ile His Asp  
 340 345 350  
 Glu Tyr Asp Asp Glu Glu Arg Thr Tyr Thr Val Ile Asn Asp His Thr  
 355 360 365  
 Trp Val Phe Glu Ala Lys Thr Gln Leu Thr Asp Phe Tyr Lys Ile Thr  
 370 375 380  
 Lys Val Asp Glu Asp Asp Phe Asp Lys Val Asp Gly Asp Ala Asp Thr  
 385 390 395 400  
 Leu Ala Gly Leu Leu Leu Glu Ile Lys Gly Glu Phe Pro Ala Leu His  
 405 410 415  
 Glu Lys Val Leu Tyr His Arg Tyr Glu Phe Glu Val Leu Ala Met Asp  
 420 425 430  
 Ser Arg Arg Ile Leu Lys Val Lys Phe Thr Val Asn Glu Pro Ser Thr  
 435 440 445  
 Glu Glu Glu Ala Ser  
 450

&lt;210&gt; 7228

&lt;211&gt; 64

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7228

Leu	His	Lys	Asn	Ile	Lys	Ser	Asp	Ile	Asp	Leu	Asn	Ile	Gly	Tyr	Asn
1				5					10				15		
Asn	Ala	Gln	Arg	Asn	Lys	Leu	Tyr	Thr	Lys	Ile	Asn	Ile	Phe	Lys	Ile
				20				25				30			
Arg	Met	Ile	Glu	Arg	Asp	Gln	Tyr	Ile	Ile	Thr	Tyr	Leu	Gln	Gln	Asp
				35				40				45			
Asn	Ser	Glu	Asn	Gly	Thr	Ile	Tyr	Pro	Leu	Asn	Thr	Ser	Ser	Asn	Ile
				50				55				60			

&lt;210&gt; 7229

&lt;211&gt; 370

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7229

Leu	Asn	Glu	Asn	Asp	Tyr	Phe	Cys	Ala	Arg	Ile	Lys	Leu	Thr	Lys	Ser
1				5					10			15			
Arg	Ile	Arg	Pro	Lys	Ser	Met	Asn	Arg	Asn	Phe	Ser	Asn	Ala	Ile	Glu
				20				25				30			
Asn	Trp	Tyr	Lys	Glu	Tyr	Lys	Arg	Glu	Leu	Pro	Trp	Arg	Asp	Ser	Ala
				35				40			45				
Asp	Pro	Tyr	Val	Ile	Trp	Ile	Ser	Glu	Ile	Ile	Leu	Gln	Gln	Thr	Arg
				50				55			60				
Val	Val	Gln	Gly	Tyr	Asp	Tyr	Phe	Val	Arg	Phe	Met	Lys	Arg	Phe	Pro
				65				70			75			80	
Asp	Val	Ala	Thr	Leu	Ala	Glu	Ala	Asp	Glu	Asp	Glu	Val	Met	Lys	Tyr
				85				90			95				
Trp	Gln	Gly	Leu	Gly	Tyr	Tyr	Ser	Arg	Ala	Arg	Asn	Leu	His	Ala	Ala
				100				105			110				
Ala	Lys	Ser	Met	Asn	Gly	Val	Phe	Pro	Lys	Thr	Tyr	Pro	Glu	Val	Arg
				115				120			125				
Ala	Leu	Lys	Gly	Val	Gly	Glu	Tyr	Thr	Ala	Ala	Ile	Cys	Ser	Phe	
				130				135			140				
Ala	Tyr	Asn	Met	Pro	Tyr	Ala	Val	Val	Asp	Gly	Asn	Val	Tyr	Arg	Val
				145				150			155			160	
Leu	Ser	Arg	Tyr	Leu	Gly	Ile	Asp	Thr	Pro	Ile	Asp	Ser	Thr	Glu	Gly
				165				170			175				
Lys	Lys	Leu	Phe	Ala	Ala	Val	Ala	Asp	Glu	Leu	Leu	Asp	Arg	Lys	Asn
				180				185			190				
Pro	Ala	Leu	Tyr	Asn	Gln	Ala	Ile	Met	Asp	Phe	Gly	Ala	Ile	Gln	Cys
				195				200			205				
Ser	Pro	Gln	Thr	Pro	Asn	Cys	Met	Phe	Cys	Pro	Leu	Ala	Asp	Ser	Cys
				210				215			220				
Ala	Ala	Leu	Ala	Lys	Gly	Thr	Val	Ala	Glu	Leu	Pro	Val	Lys	Gln	His
				225				230			235			240	
Lys	Ile	Lys	Thr	Thr	Asn	Arg	Tyr	Phe	Asn	Tyr	Ile	Tyr	Val	Arg	Met
				245				250			255				
Gly	Val	His	Thr	Phe	Ile	Asn	Lys	Arg	Thr	Gly	Asn	Asp	Ile	Trp	Arg
				260				265			270				
Asn	Leu	Phe	Glu	Leu	Pro	Leu	Ile	Glu	Thr	Pro	Val	Ala	Val	Ser	Glu
				275				280			285				
Glu	Glu	Phe	Leu	Ala	Leu	Pro	Glu	Leu	Lys	Ala	Leu	Phe	Ala	Pro	Lys
				290				295			300				
Glu	Leu	Pro	Val	Val	Arg	Ser	Val	Cys	Arg	Asp	Val	Lys	His	Val	Leu
				305				310			315			320	

Ser His Arg Val Ile Tyr Ala Asn Phe Tyr Ile Val Asp Leu Pro Glu  
           325                   330                   335  
 Asp Ser His Ser Phe Ala Ala Tyr Gln Lys Ile Lys Ala Glu Glu Leu  
           340                   345                   350  
 Glu Gln Tyr Ala Val Ser Lys Leu Val His Ala Phe Ile Glu Lys Tyr  
           355                   360                   365  
 Ile Asp  
           370

&lt;210&gt; 7230

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7230

Asn Ser Glu Asn Met Ser Val Asn Lys Val Ile Leu Ile Gly Asn Val  
   1               5               10               15  
 Gly Lys Asp Pro Glu Val Arg Tyr Leu Asp Thr Gly Ile Ala Val Ala  
           20               25               30  
 Ser Phe Pro Leu Ala Thr Thr Asp Arg Ala Tyr Thr Leu Ser Asn Gly  
           35               40               45  
 Thr Gln Val Pro Glu Arg Thr Glu Trp His Asn Leu Val Leu Trp Arg  
           50               55               60  
 Gly Leu Ala Glu Thr Ala Glu Lys Tyr Val His Lys Gly Asp Lys Leu  
           65               70               75               80  
 Tyr Val Glu Gly Lys Ile Arg Thr Arg Ser Tyr Asp Asp Gln Asn Gly  
           85               90               95  
 Ala Lys Arg Tyr Val Thr Glu Ile Phe Val Asp Asn Met Glu Met Leu  
           100              105              110  
 Thr Pro Lys Gly Thr Gly Ser Gly Ser Tyr Ala Pro Ala Gln Gln Gln  
           115              120              125  
 Thr Ala Ala Pro Val Arg Pro Gln Ser Gln Gln Pro Gln Gln Pro Val  
           130              135              140  
 Ser Ser Gln Asp Asn Ser Ala Asp Asp Leu Pro Phe  
           145              150              155

&lt;210&gt; 7231

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7231

Ser Ile Asn Leu Thr Gln Asn Ala Ile Ile Thr Arg Lys Ala Val Ile  
   1               5               10               15  
 Val Arg Ser Leu Leu Asn Ile Cys Ser Thr Phe Lys Ser Arg Phe His  
           20               25               30  
 Leu Ile Lys Gln Leu Ile Ile Lys Asp Ile Thr Asn Ile Thr Glu Lys  
           35               40               45  
 Ile Ser Ala Glu Tyr Thr Tyr Asp Val Leu Thr Asn Phe Leu Glu Tyr  
           50               55               60  
 Ser Ile Leu Phe Thr Ala Lys Asp Ser Val Asn Leu Phe Phe Asn Pro  
   65               70               75               80  
 Phe Pro Ile Pro Ile Ser Asn Lys Leu Asn His Glu Thr Ser Ser Pro  
           85               90               95  
 Arg Gly Trp Lys Asp Gln Arg Trp Ser  
           100              105

&lt;210&gt; 7232

&lt;211&gt; 77

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7232

Leu	Ile	Ala	Asp	Phe	Ile	Ala	Ser	Ser	Met	Tyr	Ser	Ser	Leu	Leu	Tyr
1				5					10						15
Thr	Gly	Ile	Thr	Ile	Asp	Thr	Lys	Gly	Leu	Val	Thr	Ser	Ala	Phe	Ile
				20					25						30
Tyr	Tyr	Cys	Asn	Leu	Leu	Ile	Asn	Thr	Asn	Leu	Asn	Leu	Leu	Ile	Phe
				35					40						45
Asp	Lys	Asn	Arg	Ile	Leu	Leu	Lys	Leu	Leu	Lys	Leu	Tyr	Arg	Leu	Tyr
				50					55						60
Lys	Asp	Gln	Ile	Phe	Leu	Lys	Glu	Lys	Arg	Phe	Leu	Ile			
				65					70						75

&lt;210&gt; 7233

&lt;211&gt; 781

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7233

Tyr	Tyr	Glu	Glu	Asn	Ala	Met	Ile	Lys	Arg	Ile	Leu	Leu	Leu	Ala	Ile
1						5				10					15
Val	Ile	Gly	Gly	Gly	Met	Thr	Thr	Val	Ala	Gln	Asn	Ser	Ile	Asp	Thr
						20				25					30
Leu	Phe	Met	Ser	Val	Ser	Gln	Arg	Leu	Ser	Gly	His	Pro	Ser	Glu	Leu
						35				40					45
Ile	Tyr	Leu	Gln	Thr	Gly	Lys	Asp	Ile	Tyr	Glu	Thr	Gly	Glu	Asp	Leu
						50				55					60
Trp	Phe	Lys	Ala	Tyr	Gln	Leu	Asp	Ala	Lys	Ser	Phe	Ala	Leu	Ser	Glu
						65				70					80
Gln	Ser	Glu	Thr	Leu	Tyr	Leu	Gln	Met	Leu	Asn	Asp	Lys	Asp	Ser	Val
						85				90					95
Val	Trp	Ala	Glu	Lys	Tyr	Pro	Ile	Glu	Lys	Gly	Ile	Ala	Glu	Gly	His
						100				105					110
Val	Tyr	Ile	Asp	Thr	Lys	Leu	Ser	Glu	Gly	Asn	Tyr	Arg	Leu	Gly	Thr
						115				120					125
Tyr	Thr	Arg	His	Ser	Tyr	Tyr	Asn	Asp	Thr	Thr	Gly	Ile	Ser	Pro	Glu
						130				135					140
Arg	Lys	Ile	Arg	Ile	Val	Arg	Asn	Ile	Ala	Leu	Asp	Ser	Leu	Pro	Glu
						145				150					160
His	Arg	Glu	Lys	Pro	Gly	Glu	Phe	Arg	Phe	Asn	Leu	Phe	Pro	Glu	Gly
						165				170					175
Gly	Asn	Leu	Val	Ser	Gly	Leu	Pro	Phe	Arg	Leu	Ala	Phe	Lys	Ala	Thr
						180				185					190
Gly	Ser	Gly	Gly	Cys	Pro	Val	Asp	Val	Glu	Gly	Thr	Leu	Tyr	Gln	Asp
						195				200					205
Glu	Ile	Pro	Val	Leu	Ser	Phe	Lys	Ser	Ser	His	Asp	Gly	Met	Gly	Val
						210				215					220
Ile	Pro	Phe	Thr	Pro	Ser	Ser	Gly	Lys	Glu	Tyr	Arg	Ile	Glu	Leu	Ala
						225				230					240
Asn	Gly	Tyr	Ser	Tyr	Ala	Leu	Pro	Glu	Ile	Tyr	Arg	Gln	Gly	Met	Gly
						245				250					255
Leu	Arg	Leu	Ser	Gly	Arg	Asp	Gly	Lys	Gln	Leu	Glu	Phe	Leu	Ile	Ser
						260				265					270
Gln	Thr	Glu	Gly	Leu	Ser	Asp	Gln	Glu	Val	Tyr	Leu	Val	Gly	Gln	Ile
						275				280					285
Arg	Gly	Thr	Val	Cys	Cys	Val	Ala	Lys	Gly	Leu	Leu	Lys	Asp	Arg	Leu
						290				295					300

Lys Met Lys Ile Pro Leu Ser Glu Phe Pro Tyr Gln Gly Ile Ala Glu  
 305 310 315 320  
 Phe Thr Leu Phe Asn Ala Ala Met Gln Pro Val Ala Glu Arg Leu Val  
 325 330 335  
 Tyr Val His Pro Glu Lys Lys Leu His Ile Asp Ile Val Thr Glu Lys  
 340 345 350  
 Glu Ser Tyr Val Leu Arg Glu Lys Ala Ala Leu Lys Val Lys Val Thr  
 355 360 365  
 Asp Asp Asn Gly Gln Pro Val Lys Ala Asp Leu Gly Ile Ser Val Phe  
 370 375 380  
 Asp Lys Ala Tyr Ser Asn Pro Asp Asp Arg Val Asn Met Leu Ala Tyr  
 385 390 395 400  
 Cys Tyr Leu Ser Ser Gln Ile Arg Gly Ala Val Cys Arg Pro Ala Tyr  
 405 410 415  
 Tyr Phe Asp Glu Lys Asn Ala Asp Arg Met Gln Ala Met Asp Leu Leu  
 420 425 430  
 Leu Leu Thr Gln Gly Trp Arg Arg Tyr Val Trp Glu Leu Asn Gly Ala  
 435 440 445  
 Val Arg His Gly Glu Met Phe Leu Arg Asp Asp Val Thr Gly Ile Gln  
 450 455 460  
 Thr Leu Gly Ser Lys Lys Lys Ser Lys Gly Thr Gly Gly Ala Lys Gln  
 465 470 475 480  
 Leu Ile Gln Val Ser Gly Ala Glu Gly Asn Ser Thr Tyr Leu Met Thr  
 485 490 495  
 Asp Ser Leu Gly Arg Phe Thr Val Asp Thr Asp Leu Met Lys Thr Leu  
 500 505 510  
 Arg Gly Gly Tyr Val Tyr Leu Lys Pro Met Leu Ser Lys Glu Phe Lys  
 515 520 525  
 Pro Glu Leu Glu Ile Gln Asp Tyr Phe Pro Ala Ile Asp Ser Ile Arg  
 530 535 540  
 Arg Lys Lys Ser Phe Asp Cys Ser Leu Ile Asn Cys Thr Gln Arg Pro  
 545 550 555 560  
 Lys Glu Glu Ile Tyr Asp Ala Pro Val Val Ser Gly Asp Ser Thr Ile  
 565 570 575  
 Leu Leu Asp Glu Val Val Ile Ala Arg Lys Ala Arg Lys Pro Phe Arg  
 580 585 590  
 Asp Lys Leu Met Gly Arg Leu Asp Ser Leu Ala Gln Met Asn Leu Asn  
 595 600 605  
 Ser Val Tyr Val Cys Thr Ser Cys Gly Leu Leu Leu Asn Tyr Asn Pro  
 610 615 620  
 Asp Tyr Gln Gly His His Ala Leu Val Gly Glu Gly Gly Cys Pro Ala  
 625 630 635 640  
 Lys Gly Arg Lys Gln Pro Val Asp Gly Glu Thr Tyr Arg Ile Ala Lys  
 645 650 655  
 Tyr Lys Tyr Tyr Gly Asp Ala Lys Gly Gly Gly Val Tyr Phe Ser Val  
 660 665 670  
 Val Asp Ala His Ser Val Val Tyr His Ala Ala Glu Phe Thr Glu Glu  
 675 680 685  
 Glu Leu Leu Arg Met Asn Asn Met Trp Arg Val Lys Gly Tyr Tyr Gly  
 690 695 700  
 Lys Arg Glu Phe Tyr Gln Pro Asp Glu Ile Asp Met Gln Leu Pro Val  
 705 710 715 720  
 Pro Asp Ala Arg Asn Thr Leu Leu Trp Ala Pro Ser Val Val Thr Asp  
 725 730 735  
 Glu Lys Gly Glu Ala Thr Val Ser Phe Tyr Cys Ser Asp Ile Asn Thr  
 740 745 750  
 Gly Phe Ile Gly Val Ala Glu Gly Val Asp Gly Thr Gly Leu Leu Gly  
 755 760 765  
 Thr Asp Gln Cys Glu Phe Arg Val Ile Arg Arg Ala Asp

770

775

780

&lt;210&gt; 7234

&lt;211&gt; 262

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7234

Asn	His	Ile	Phe	Ser	Phe	Ile	Ala	Met	Asn	Pro	Ile	Leu	Ser	Phe	Ile
1			5						10						15
Ile	Ile	Glu	Tyr	His	Ser	Phe	Asp	Asp	Ile	Val	Glu	Cys	Ile	Ala	Thr
		20					25							30	
Ile	Arg	Ser	Ser	Thr	Ser	Leu	Ser	Tyr	Glu	Val	Ile	Val	Ser	Ser	Asn
	35					40							45		
Ser	Cys	Tyr	Leu	Leu	Glu	Val	Gln	Glu	Arg	Ile	Leu	Lys	Lys	Met	Glu
	50				55						60				
His	Val	Lys	Trp	Val	Phe	Asn	Ser	Lys	Asn	Gly	Gly	Phe	Ala	Tyr	Ala
65				70					75					80	
Met	Asn	Arg	Gly	Ile	Glu	Lys	Ala	Val	Gly	Asp	Phe	Leu	Val	Ile	Met
	85					90								95	
Asn	Pro	Asp	Val	Arg	Ile	Lys	Tyr	Gly	Ile	Glu	Tyr	Met	Phe	Asp	Phe
	100					105							110		
Leu	Tyr	Phe	Asn	Glu	Gln	Val	Gly	Ile	Val	Ser	Pro	Lys	Ile	Val	Asn
	115					120						125			
Ser	Leu	Gly	Glu	Val	Gln	Asp	Ser	Phe	Arg	Lys	Phe	Leu	Thr	Pro	Ser
	130					135						140			
Asn	Phe	Ile	Leu	Arg	Gln	Leu	Arg	Arg	Ile	Phe	Tyr	Arg	Arg	Asn	Glu
145					150				155					160	
Val	Ile	Thr	Met	Thr	Lys	Leu	Glu	Asn	Val	Asp	Trp	Val	Ile	Gly	Ala
		165					170						175		
Phe	Met	Met	Ile	Ser	Lys	Lys	Ala	Tyr	Glu	Ala	Val	Cys	Gly	Met	Asp
	180					185							190		
Glu	Lys	Tyr	Phe	Leu	Tyr	Cys	Glu	Asp	Met	Asp	Leu	Cys	Lys	Ile	
	195					200						205			
His	Asp	Lys	Gly	Tyr	Lys	Val	Ile	Tyr	Tyr	Pro	Asp	Ala	Val	Val	Val
	210					215						220			
Tyr	Glu	Gly	Thr	Arg	Ser	Ala	Arg	Lys	Ser	Leu	Lys	Tyr	Ala	Cys	Ile
225					230					235				240	
Phe	Leu	Ser	Ser	Leu	Leu	His	Tyr	Trp	Ser	Lys	Phe	Gly	Phe	Lys	Arg
				245					250				255		
Leu	Thr	Ser	Val	Phe	Gly										
			260												

&lt;210&gt; 7235

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7235

Asn	Lys	Thr	Arg	Phe	Lys	Ser	Lys	Lys	Ile	Met	Thr	Glu	Asn	Tyr	Glu
1			5						10			15			
Leu	Ile	Asp	Asn	Glu	Glu	Lys	His	Gln	Tyr	Glu	Phe	His	Val	Glu	Gly
		20				25			30						
Tyr	Val	Pro	Arg	Ile	Glu	Tyr	Ile	Lys	Ser	Leu	Asn	Gly	Glu	Ile	Tyr
	35				40							45			
Leu	Thr	His	Thr	Glu	Val	Pro	Ala	Ala	Leu	Gly	Gly	His	Gly	Ile	Gly
	50				55					60					
Ser	Gln	Leu	Ala	Glu	Lys	Val	Leu	Thr	Asp	Ile	Glu	Arg	Gln	Gly	Leu
65					70					75			80		

Arg	Leu	Val	Pro	Leu	Cys	Pro	Phe	Val	Ala	Gly	Tyr	Ile	His	Lys	His
															85
															90
															95
Pro	Glu	Trp	Lys	Arg	Ile	Val	Leu	Arg	Gly	Ile	His	Ile	Gln		
															100
															105
															110

&lt;210&gt; 7236

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7236

Ile	Lys	Thr	Met	Asn	Ile	Leu	His	Asp	Thr	Cys	Arg	Leu	Val	Phe	Val
1															15
															10
Tyr	Leu	Gly	Arg	Leu	Pro	Glu	Tyr	Val	Ile	Tyr	Ser	Leu	Lys	Ile	Asn
															30
															20
Ser	Lys	Tyr	Asn	Arg	Ile	Thr	Leu	Leu	His	Asp	Cys	Glu	Ile	Gln	Asn
															45
															35
His	Val	Ala	Asn	Val	Glu	Tyr	Ile	Asn	Ile	Asp	Asp	Phe	Tyr	Asp	Arg
															60
															50
Arg	Gln	Phe	Val	Asn	Leu	Ile	Ala	Glu	Ser	Pro	Leu	Lys	Asn	Phe	Arg
															80
															65
Asp	Gly	Phe	Trp	Tyr	Lys	Thr	Thr	Glu	Arg	Phe	Tyr	Val	Leu	Arg	Ser
															95
															85
Tyr	Met	Asp	His	Tyr	Asn	Val	His	Ala	Ile	Phe	His	Ala	Glu	Leu	Asp
															110
															100
Asn	Ile	Val	Tyr	Asn	Leu	Glu	Gly	Val	Ser	Ile	Ser	Leu	Asp	Lys	Ile
															125
															115
Gly	Asn	Gly	Leu	Phe	Tyr	Pro	Ile	Leu	Asn	Asn	Lys	Lys	Ala	Ala	Ala
															130
															135
Ser	Phe	Met	Tyr	Ile	Asn	Ser	Phe	Ser	Glu	Leu	Asp	Ala	Ile	Gly	
															145
															150
															155
Tyr	Phe	Asn	Glu	Gln	Lys	Thr	Phe	Lys	Asp	Asp	Met	Gln	Leu	Leu	Ala
															165
															170
															175
Glu	Tyr	Ala	Ser	Ala	Ser	Val	Asn	Val	Phe	Pro	Leu	Pro	Ser	Glu	Asn
															180
															185
Ser	Leu	Cys	Lys	Met	Pro	Val	Ser	Asn	Glu	Val	Gln	Cys	Ile	Tyr	Asp
															195
															200
															205
Ala	Ala	Ser	Ile	Gly	Gln	Tyr	Leu	Leu	Gly	Ile	Asp	Phe	Arg	Asn	Ala
															210
															215
Ser	Arg	Pro	Ile	Phe	Asn	Gly	Phe	Gln	Asn	Glu	Asn	Cys	Ile	Ile	Asp
															225
															230
															235
Leu	Ser	Gln	Leu	Lys	Phe	Ile	Gln	Asp	Gly	Asp	Lys	Gly	Ile	Leu	Met
															245
															250
Phe	Tyr	Asp	Gln	Ala	Ile	Tyr	Leu	Leu	Lys	Asn	Ile	His	Val	His	Ser
															260
															265
															270
Lys	Val	Phe	Lys	Arg	Met	Tyr	Leu	Ser	Glu	Ser	Tyr	Val	Pro	Arg	Ile
															275
															280
Met	Lys	Lys	Ile	Asn	Gly	Gly	Lys	Lys	Ser	Leu	Met	Ser	Leu	Asn	Phe
															290
															295
Lys	Asn	Met	Ile	Lys	Leu	Phe	Leu	Asp	Lys	Ser	Lys	Leu	Leu		
															305
															310
															315

&lt;210&gt; 7237

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7237

Asn Val Ile Ile Phe Lys Asn Asn Ile Val Phe Ser Asn Ile Ser Arg

1	5	10	15
Thr Lys Thr Ile Ser Tyr Lys Lys	Thr Ile Ser Leu Glu Tyr	Tyr Asn	
20	25	30	
Ser Arg Tyr Leu Tyr Asn Lys Lys	Ile Asn Thr Lys Arg	Lys Asp Phe	
35	40	45	
Arg Lys Met Leu Phe Ile Arg Lys	Ser Asn Thr Arg Ser		
50	55	60	

&lt;210&gt; 7238

&lt;211&gt; 254

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7238

Glu Leu Ile Ile Met Leu Tyr Ser Lys Val Ser Ile Ile Thr Ala Ser			
1	5	10	15
Tyr Asn Ser Glu Ala Thr Leu Glu Ala Thr Ile Glu Ser Val Tyr Asn			
20	25	30	
Gln Thr Tyr Gln Asp Ile Glu Tyr Ile Ile Asp Gly Gly Ser Ser			
35	40	45	
Asp Lys Thr Val Ser Ile Ile Gln Lys Phe Glu Pro Leu Phe Ser Gly			
50	55	60	
Arg Leu Lys Trp Ile Ser Glu Pro Asp Lys Gly Ile Tyr Asp Ala Trp			
65	70	75	80
Asn Lys Gly Leu Glu Ile Ala Thr Gly Glu Trp Ile Ala Phe Leu Gly			
85	90	95	
Ser Asp Asp Ile Tyr Leu Pro Asp Ser Ile His Lys Tyr Met Asn Val			
100	105	110	
Leu Ile Ser Lys Lys Cys Val Asn Phe Ile Ser Ser Lys Cys Lys Leu			
115	120	125	
Val Asn Ser Glu Leu Lys Thr Leu Met Ile Tyr Gly Lys Pro Trp Gly			
130	135	140	
Lys Leu Met Asn Ser Tyr Cys Cys Ile Ala His Val Gly Cys Met His			
145	150	155	160
Lys Arg Cys Leu Phe Asp Asn Tyr Gly Ser Phe Asn Ser Asp Tyr Lys			
165	170	175	
Ile Ala Gly Asp Tyr Asp Phe Leu Leu Arg Val Lys Asp Val Ile Ile			
180	185	190	
Pro Tyr Tyr Leu Pro Glu Ile Thr Ala Ile Val Gln Asp Gly Gly Ile			
195	200	205	
Ser Asn Arg Asn Ile Leu Lys Val Cys Gly Glu Thr Leu Lys Ile Lys			
210	215	220	
Val Ser His Lys Thr Lys Asn Leu Tyr Phe Ser Leu Trp Asp Tyr Cys			
225	230	235	240
Val Ala Val Phe Lys Tyr Tyr Val Arg Ser Phe Met Ile Lys			
245	250		

&lt;210&gt; 7239

&lt;211&gt; 526

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7239

Ile Ser Lys Ile Met Lys Arg Pro Tyr Leu Leu Leu Ala Cys Leu Ser			
1	5	10	15
Pro Val Ala Cys Leu Met Ala Ala Ser Gly Gln Lys Gly Gly Lys Asn			
20	25	30	
Lys Gln Lys Val Asn Asp Arg Gln Leu Pro Asn Val Val Phe Ile Tyr			
35	40	45	

Ala Asp Asp Leu Gly Tyr Gly Asp Leu Glu Cys Tyr Gly Ala Lys Asn  
 50 55 60  
 Val Gln Thr Pro Asn Val Asn Arg Leu Ala Ser Glu Gly Ile Arg Phe  
 65 70 75 80  
 Thr Asn Ala His Ala Thr Ala Ala Thr Ser Thr Pro Ser Arg Tyr Ser  
 85 90 95  
 Met Leu Thr Gly Glu Tyr Ala Trp Arg Arg Pro Gly Thr Asp Val Ala  
 100 105 110  
 Ala Gly Asn Ala Gly Met Ile Ile Arg Pro Glu Asp Tyr Thr Met Ala  
 115 120 125  
 Asp Met Phe Lys Asn Ser Gly Tyr Val Thr Ala Ala Leu Gly Lys Trp  
 130 135 140  
 His Leu Gly Leu Gly Asp Lys Ser Gly Glu Gln Asp Trp Asn Ala Pro  
 145 150 155 160  
 Leu Pro Ala Ala Leu Gly Asp Leu Gly Phe Asp Tyr Ser Tyr Ile Met  
 165 170 175  
 Ala Ala Thr Ala Asp Arg Val Pro Cys Val Phe Ile Glu Asn Gly Lys  
 180 185 190  
 Val Ala Asn Tyr Asp Pro Ser Ala Pro Ile Glu Val Ser Tyr Arg Lys  
 195 200 205  
 Pro Phe Glu Gly Glu Pro Leu Gly Lys Asp His Pro Glu Leu Leu Tyr  
 210 215 220  
 Asn Gln Lys His Ser His Gly His Asp Met Ala Ile Val Asn Gly Ile  
 225 230 235 240  
 Gly Arg Ile Gly Tyr Met Lys Gly Gly Lys Ala Leu Trp Lys Asp  
 245 250 255  
 Glu Asn Ile Ala Asp Ser Ile Thr Thr His Ala Ile Asn Phe Ile Arg  
 260 265 270  
 Glu His Lys Asp Glu Pro Phe Phe Met Tyr Phe Ala Thr Asn Asp Val  
 275 280 285  
 His Val Pro Arg Phe Pro His Glu Arg Phe Arg Gly Lys Asn Pro Met  
 290 295 300  
 Gly Val Arg Gly Asp Ala Ile Val Gln Phe Asp Trp Ser Val Gly Gln  
 305 310 315 320  
 Ile Leu Glu Thr Leu Asp Lys Leu Gly Leu Ser Glu Asn Thr Leu Ile  
 325 330 335  
 Ile Leu Ser Ser Asp Asn Gly Pro Val Val Asp Asp Gly Tyr Gln Asp  
 340 345 350  
 Arg Ala Glu Glu Leu Leu Asn Gly His Ser Pro Ala Gly Pro Leu Arg  
 355 360 365  
 Gly Asn Lys Tyr Ser Ala Phe Glu Gly Gly Thr Arg Ile Pro Ala Ile  
 370 375 380  
 Val Arg Trp Pro Lys Lys Ile Thr Gln Pro Gln Val Ser Asp Val Leu  
 385 390 395 400  
 Val Ser Gln Ile Asp Trp Leu Ala Ser Leu Ala Ser Leu Val Asp Ala  
 405 410 415  
 Arg Val Pro Lys Gly Ala Ala Pro Asp Ser Phe Asp Arg Leu Gly Asn  
 420 425 430  
 Trp Leu Gly Thr Asp Ser Thr Asp Arg Pro Trp Val Ile Glu Gln Ala  
 435 440 445  
 Ser Asn His Thr Leu Ser Val Arg Thr Lys Asp Trp Lys Tyr Ile Glu  
 450 455 460  
 Pro Asn Asp Gly Pro His Met Ile Thr Trp Gly Pro Lys Ile Glu Thr  
 465 470 475 480  
 Gly Asn Leu Ser Ile Pro Gln Leu Tyr Asp Met Thr Lys Asp Tyr Glu  
 485 490 495  
 Gln Glu Asn Leu Ala Glu Lys Asn Pro Ala Lys Leu Phe Glu Leu Gln  
 500 505 510  
 Thr Ile Leu Arg Lys Val Arg Asn Lys Thr Tyr Arg Ala Leu

515

520

525

<210> 7240  
 <211> 299  
 <212> PRT  
 <213> B.fragilis

<400> 7240

Ile	Lys	Lys	Met	Glu	Ile	Asp	Leu	Val	Phe	Val	Thr	Lys	Ile	Asp	His
1			5					10				15			
Leu	Tyr	Val	Leu	Asn	Leu	Ala	Leu	Lys	Lys	Met	Val	Met	Leu	Asn	Asp
	20							25				30			
Ile	Arg	Ser	Val	Phe	Ile	Ile	Thr	Asn	Lys	Lys	Tyr	Phe	Lys	Tyr	Phe
	35						40				45				
Pro	Val	Arg	Lys	Asp	Ile	Lys	Ile	Asn	Leu	Ile	Asp	Glu	Asp	Ser	Val
	50						55				60				
Leu	Pro	Asp	Met	Thr	Leu	Asn	Gln	Leu	Ser	Lys	Leu	Ser	Leu	Pro	Phe
	65				70				75				80		
Phe	Pro	Lys	Arg	Ser	Gly	Trp	Tyr	Phe	Gln	Gln	Phe	Leu	Lys	Leu	Gly
		85						90				95			
Ile	Ser	Lys	Leu	Asp	Asp	Leu	Ser	Glu	Asn	Tyr	Leu	Val	Leu	Asp	Ala
		100					105				110				
Asp	Thr	Ile	Phe	Leu	Gln	Arg	Ile	Pro	Leu	Phe	Asp	Asn	Gly	Arg	Phe
	115						120				125				
Val	Phe	Thr	Lys	Ala	Gln	Glu	Tyr	His	Lys	Pro	Tyr	Phe	Glu	Asn	Tyr
	130					135				140					
Ile	Asn	Leu	Leu	Lys	Glu	Ser	Pro	Ser	Arg	Glu	Phe	Ser	Phe	Ile	Ser
	145				150				155				160		
Gln	Tyr	Met	Leu	Phe	Asn	Lys	Asn	Ile	Val	Thr	Glu	Met	Leu	Asn	Lys
		165						170				175			
Ile	Glu	Ser	Asn	Phe	Asn	Phe	Glu	Asn	His	Trp	Asn	Trp	Ile	Ile	Ile
		180				185				190					
Asn	Asn	Leu	Leu	Gly	Asp	Asp	Ala	Ser	Leu	Phe	Ser	Glu	Tyr	Glu	Thr
		195					200				205				
Tyr	Gly	Asn	Tyr	Ile	Lys	Asn	His	Tyr	Pro	Glu	Lys	Val	Cys	Phe	Leu
	210					215				220					
Asp	Leu	Lys	Trp	Leu	Arg	Glu	Gly	Ser	Lys	Val	Leu	Gly	Ser	Leu	Phe
	225				230				235				240		
Pro	Lys	Ile	Glu	Asp	Ile	Glu	Lys	Leu	His	Gly	Tyr	Tyr	Phe	Val	Ser
		245					250				255				
Phe	Glu	Leu	Asn	Thr	Val	Gly	Ala	Ser	Phe	Phe	Thr	Lys	Val	Lys	Lys
		260				265				270					
His	Leu	Phe	Cys	Phe	Leu	Tyr	Pro	Arg	Phe	Ser	Phe	Leu	Lys	Arg	Ile
		275				280				285					
Ile	Tyr	Lys	Val	Leu	Pro	Tyr	Glu	Ile	Asn	Asn					
	290				295										

<210> 7241  
 <211> 291  
 <212> PRT  
 <213> B.fragilis

<400> 7241

Thr	Leu	Glu	Ile	Met	Asn	Arg	Arg	Val	Ile	Gln	Ile	Phe	Cys	Met	Val
1				5				10				15			
Val	Gly	Met	Val	Leu	Ala	Ser	Ser	Cys	Gly	Asp	Glu	Cys	Pro	Val	Glu
	20						25				30				
Gln	Pro	Tyr	Ser	Val	Arg	Val	Ser	Val	Lys	Asp	Lys	Asn	Tyr	Leu	Asn
	35						40				45				

Ile Ser Gln Phe Pro Gln Leu Ser Pro Val Asp Glu Asn Leu Pro Phe  
 50 55 60  
 Arg Thr Tyr Ala Gly Thr Leu Tyr Tyr Ala Leu Tyr Asp Ala Ser Thr  
 65 70 75 80  
 Gly Ala Leu Ile Arg Glu Ser Ala Val Val Ser Thr Glu Gly Glu Glu  
 85 90 95  
 Lys Glu Tyr Thr Leu Thr Phe Pro Gly Val Pro Asp Gly Asp Tyr Lys  
 100 105 110  
 Leu Ala Val Trp Gly Asn Leu Thr Thr Asp Tyr Pro Ala Gly Ile Leu  
 115 120 125  
 His Gln Asp Gly Lys Glu His Thr Asp Ile Tyr Val Thr Ser Gly Asp  
 130 135 140  
 Leu His Phe Ser Pro Asp Tyr Gln Thr Glu Glu Leu Thr Leu Glu Arg  
 145 150 155 160  
 Thr Lys Gly Lys Leu Leu Leu Cys Ser Asn Phe Pro Ser Glu Ile  
 165 170 175  
 Thr Arg Ile Glu Gln Asn Val Ser His Val Tyr Gln Ser Thr Asp Ala  
 180 185 190  
 Ala Leu Asn Tyr Ser Gly Ser Thr Gln Val Asp Lys Asn Val Pro Phe  
 195 200 205  
 Thr Ser Val Leu Glu Thr Leu Leu Ala Pro Thr Ser Ala Glu Gly His  
 210 215 220  
 Ser Lys Leu Thr Leu Thr Phe Tyr Thr Gly Gly Thr Arg Ala Ser Glu  
 225 230 235 240  
 Thr Pro Tyr Leu Lys Leu Pro Val Met Glu Met Asp Met Arg Arg Asn  
 245 250 255  
 Glu Ile Thr Ala Val Ser Ile Asp Tyr Asn Thr Ser Glu Gly Ile Trp  
 260 265 270  
 Glu Ile Lys Met Phe Ile Arg Gly Glu Trp Ile Thr Ile His Arg Leu  
 275 280 285  
 Asp Ile Phe  
 290

&lt;210&gt; 7242

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7242

Val His Asn Leu Gln Arg Lys Phe Ser Leu Thr Leu Asn Gly Arg Asp  
 1 5 10 15  
 Cys Ala Trp Phe Leu Ser Val Arg Ser Leu Arg Asp Ile Tyr Ile Ser  
 20 25 30  
 Ile Arg Asn Gly Ser Val Leu Tyr Phe Val Val Phe Thr Phe Asn Asn  
 35 40 45  
 Ile Lys Thr Val Met Gly Lys Gln Ile Glu Tyr Ser Asn Gly Glu Leu  
 50 55 60  
 Thr Ile Val Trp Gln Pro Glu Leu Cys Arg His Ala Gly Ile Cys Val  
 65 70 75 80  
 Lys Thr Leu Pro Asn Val Tyr His Pro Lys Glu Arg Pro Trp Ile Lys  
 85 90 95  
 Met Glu Asn Ala Thr Thr Glu Glu Leu Ile Ala Gln Ile Lys Met Cys  
 100 105 110  
 Pro Ser Gly Ala Leu Ser Tyr Lys Leu Lys Lys  
 115 120

&lt;210&gt; 7243

&lt;211&gt; 68

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7243

Arg	Phe	Tyr	Val	Phe	Tyr	Pro	Gly	Asn	Ile	Thr	Phe	Asn	Met	Lys	Phe
1	5					10							15		
Ile	Leu	Met	Phe	Phe	Ile	Ile	Tyr	Gln	Phe	Ile	Ile	Phe	Ser	His	
	20					25							30		
Asn	Leu	Leu	Thr	Phe	Lys	Ser	Cys	Phe	Ile	Leu	Gln	His	Leu	Glu	Asp
	35					40						45			
Lys	Leu	Cys	Phe	Leu	Leu	Leu	Phe	Ile	Tyr	Glu	Ser	Phe	Lys	Gln	Leu
	50					55						60			
Asp	Asp	Gly	Ile												
	65														

&lt;210&gt; 7244

&lt;211&gt; 527

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7244

Glu	Ile	Glu	Val	Thr	Ser	Glu	Leu	Val	Val	Asp	Val	Gln	Pro	Lys	Glu
1		5						10					15		
Val	Ser	Ile	Ala	Leu	Leu	Glu	Asp	Lys	Ser	Leu	Val	Glu	Leu	Gln	Ser
		20						25					30		
Glu	Gly	Arg	Asn	Ile	Ser	Phe	Ser	Val	Gly	Asn	Met	Tyr	Leu	Gly	Arg
	35							40			.	45			
Val	Lys	Lys	Leu	Met	Pro	Gly	Leu	Asn	Ala	Cys	Phe	Val	Asp	Val	Gly
	50							55				60			
Tyr	Glu	Lys	Asp	Ala	Phe	Leu	His	Tyr	Leu	Asp	Leu	Gly	Pro	Gln	Phe
	65							70			75		80		
Asn	Ser	Leu	Glu	Lys	Tyr	Val	Lys	Gln	Thr	Leu	Ser	Asp	Lys	Lys	Lys
								85			90		95		
Leu	Asn	Pro	Ile	Ser	Lys	Ala	Thr	Leu	Leu	Pro	Asp	Leu	Asp	Lys	Asp
			100					105					110		
Gly	Thr	Val	Ala	Asn	Thr	Leu	Lys	Val	Gly	Gln	Glu	Val	Val	Val	Gln
		115						120				125			
Ile	Val	Lys	Glu	Pro	Ile	Ser	Thr	Lys	Gly	Pro	Arg	Leu	Thr	Ser	Glu
	130							135			140				
Ile	Ser	Phe	Ala	Gly	Arg	Tyr	Leu	Val	Leu	Ile	Pro	Phe	Asn	Asp	Lys
	145							150			155		160		
Val	Ser	Val	Ser	Gln	Lys	Ile	Lys	Ser	Ser	Glu	Glu	Arg	Ala	Arg	Leu
								165			170		175		
Lys	Gln	Leu	Leu	Met	Ser	Ile	Lys	Pro	Lys	Asn	Phe	Gly	Val	Ile	Val
								180			185		190		
Arg	Thr	Val	Ala	Glu	Gly	Lys	Arg	Val	Ala	Glu	Leu	Asp	Gly	Glu	Leu
	195							200				205			
Lys	Val	Leu	Leu	Lys	His	Trp	Glu	Glu	Ser	Ile	Thr	Lys	Val	Gln	Lys
	210							215			220				
Ala	Thr	Lys	Phe	Pro	Thr	Leu	Ile	Tyr	Glu	Glu	Thr	Ser	Arg	Ala	Val
	225							230			235		240		
Ala	Leu	Leu	Arg	Asp	Leu	Phe	Asn	Pro	Ser	Phe	Glu	Asn	Ile	Tyr	Val
								245			250		255		
Asn	Asn	Glu	Ala	Val	Phe	Asn	Glu	Ile	Arg	Asp	Tyr	Val	Thr	Leu	Ile
								260			265		270		
Ala	Pro	Glu	Arg	Ala	Gly	Ile	Val	Lys	Leu	Tyr	Lys	Gly	Gln	Leu	Pro
								275			280		285		
Ile	Tyr	Asp	Asn	Phe	Gly	Ile	Thr	Lys	Gln	Ile	Lys	Ser	Ser	Phe	Gly
	290							295			300				
Lys	Thr	Val	Ser	Tyr	Lys	Ser	Gly	Ala	Tyr	Leu	Ile	Ile	Glu	His	Thr

305	310	315	320
Glu Ala Leu His Val Val Asp Val Asn Ser Gly Asn Arg Thr Lys Asn			
325	330	335	
Ala Asn Gly Gln Glu Gly Asn Ala Leu Glu Val Asn Leu Gly Ala Ala			
340	345	350	
Asp Glu Leu Ala Arg Gln Leu Arg Leu Arg Asp Met Gly Gly Ile Ile			
355	360	365	
Val Val Asp Phe Ile Asp Met Asn Glu Ala Glu Asn Arg Gln Lys Leu			
370	375	380	
Tyr Glu Arg Met Cys Ala Asn Met Gln Lys Asp Arg Ala Arg His Asn			
385	390	395	400
Ile Leu Pro Leu Ser Lys Phe Gly Leu Met Gln Ile Thr Arg Gln Arg			
405	410	415	
Val Arg Pro Ala Met Asp Val Asn Thr Thr Glu Thr Cys Pro Thr Cys			
420	425	430	
Phe Gly Lys Gly Thr Ile Lys Ser Ser Ile Leu Phe Thr Asp Thr Leu			
435	440	445	
Glu Ser Lys Ile Asp Tyr Leu Val Asn Lys Leu Lys Ile Lys Lys Phe			
450	455	460	
Ser Leu His Ile His Pro Tyr Val Ala Ala Tyr Leu Asn Gln Gly Leu			
465	470	475	480
Met Ser Leu Lys Arg Lys Trp Gln Met Lys Tyr Gly Phe Gly Ile Lys			
485	490	495	
Ile Ile Pro Ser Gln Lys Leu Ala Phe Leu Glu Tyr Val Phe Tyr Asp			
500	505	510	
Ser His Gly Glu Glu Ile Asp Met Lys Glu Glu Phe Glu Ile Lys			
515	520	525	

&lt;210&gt; 7245

&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7245

Ile Asn Asn Ser Glu Ser Met Arg Tyr Leu Leu Met Asn Tyr Gly Val			
1	5	10	15
Leu Gly Val Ile Arg Leu Ala Leu Asp Phe Ile Gly Thr Lys Ile Ala			
20	25	30	
Phe Arg Lys Ser Arg Leu Ile Arg Phe Pro Ile Asp Ile Arg Gly Arg			
35	40	45	
Ser Phe Ile Asp Phe Gly Ser Asn Leu Thr Thr Gly Arg Tyr Cys Arg			
50	55	60	
Leu Glu Val Tyr Pro Ile Glu His Lys Lys Gly Ile Leu Lys Ile Gly			
65	70	75	80
Asp Asn Val Glu Ile Asn Asp Phe Val His Ile Ala Ala Arg Leu Ser			
85	90	95	
Val Gln Ile Gly Asn Asn Val Leu Ile Ala Ser Lys Val Phe Ile Ser			
100	105	110	
Asp Ile Gln His Gly Cys Tyr Asn Ser Asn Lys Met Phe Asn Asp Cys			
115	120	125	
Tyr Pro Asp Ile Pro Pro Lys Glu Arg Ser Leu Phe Ala Glu Ser Val			
130	135	140	
Phe Val Gly Asp Asn Val Trp Ile Gly Glu Ser Val Ser Ile Leu Ala			
145	150	155	160
Gly Val Lys Ile Gly Asp Phe Ser Ile Ile Gly Ala Asn Ser Val Val			
165	170	175	
Cys Lys Ser Ile Pro Ser Tyr Ser Ile Ala Val Gly Asn Pro Ala Thr			
180	185	190	
Val Ile Lys Lys Phe Asn Lys Thr Thr Asn Lys Trp Glu Lys Val			

195

200

205

<210> 7246  
<211> 335  
<212> PRT  
<213> B.fragilis

<400> 7246

Ile	Arg	Leu	Ser	Asp	Tyr	Leu	His	Asn	Leu	Tyr	Leu	Lys	Lys	Ile	Cys
1				5					10					15	
Lys	Leu	Lys	Thr	Arg	Asn	Lys	Met	Asn	Glu	Thr	Leu	Thr	Val	Phe	Met
			20				25					30			
Ile	Ser	Glu	Ile	Glu	Arg	Leu	Arg	Glu	Glu	Gly	Arg	Glu	Pro	Ala	Arg
	35				40						45				
Arg	Ile	Tyr	His	Asn	Met	Leu	Arg	Thr	Leu	Arg	Glu	Ser	Ala	Gly	Lys
	50				55				60						
Glu	Glu	Ile	Gly	Phe	Glu	Glu	Val	Thr	Pro	Val	Phe	Leu	Gly	Lys	Tyr
	65				70			75				80			
Glu	His	Trp	Leu	Leu	Gly	Lys	Arg	Leu	Ser	Trp	Asn	Thr	Val	Ser	Thr
		85				90			95						
Tyr	Met	Arg	Ala	Leu	Arg	Ala	Gly	Tyr	Asn	Arg	Gly	Met	Lys	Gly	Arg
	100					105						110			
Pro	Gly	Tyr	Val	Thr	Gly	Leu	Phe	Asp	Lys	Val	Tyr	Thr	Gly	Thr	Arg
	115					120					125				
Ser	Asp	Val	Lys	Arg	Ala	Val	Asp	Ala	Arg	Thr	Val	Gly	Arg	Met	Ile
	130				135				140						
Arg	Met	Ser	Gly	Cys	Pro	Asp	Glu	Ser	Ala	Ser	Ala	Lys	Ala	Val	Asp
	145					150			155				160		
Trp	Phe	Val	Leu	Met	Phe	Met	Leu	Arg	Gly	Ile	Pro	Phe	Val	Asp	Leu
		165					170			175					
Ala	His	Leu	Arg	Arg	Ser	Asn	Leu	Asp	Lys	Gly	Val	Leu	Thr	Tyr	Cys
		180				185					190				
Arg	His	Lys	Thr	Gly	Gln	Glu	Val	Ser	Ile	Ser	Val	Pro	Arg	Glu	Ala
	195					200					205				
Met	Glu	Ile	Ile	Asn	Arg	Arg	Met	Val	Glu	Asn	Cys	His	Pro	Ser	Tyr
	210					215					220				
Leu	Leu	Pro	Ile	Leu	Gly	Gln	Pro	Arg	Thr	Arg	Lys	Arg	His	Thr	Lys
	225				230				235			240			
Lys	Ala	Leu	Thr	Pro	Tyr	Gln	Glu	Tyr	Gln	Tyr	Ala	Leu	Arg	Asn	Leu
		245				250				255					
Asn	Arg	Arg	Leu	Glu	Arg	Val	Ser	Val	Asp	Leu	Arg	Leu	Gly	Gly	Arg
		260				265					270				
Leu	Ser	Ser	Tyr	Thr	Ala	Arg	His	Thr	Trp	Ala	Thr	Ile	Ala	Phe	His
	275					280					285				
Gln	Glu	Thr	Pro	Val	Gly	Val	Ile	Ser	Arg	Gly	Leu	Gly	His	Ser	Ser
	290				295				300						
Val	Lys	Val	Thr	Glu	Thr	Tyr	Leu	Lys	Pro	Phe	Gly	Asp	Arg	Glu	Val
	305				310				315			320			
Asp	Arg	Thr	Asn	Arg	Lys	Ile	Leu	Asn	Tyr	Val	Leu	Asn	Ala	Val	
		325				330					335				

<210> 7247  
<211> 529  
<212> PRT  
<213> B.fragilis

<400> 7247

Leu	Gln	Cys	Pro	Met	Asp	Thr	Pro	Ile	Asn	Ala	Pro	Leu	Arg	Lys	Leu
1				5				10				15			

Pro Ile Gly Ile Gln Ser Phe Glu Lys Leu Arg Ser Glu Asn Phe Leu  
     20                       25                       30  
 Tyr Val Asp Lys Thr Ala Leu Ile Tyr Arg Leu Ala Gln Ala Gly Asn  
     35                       40                       45  
 Pro Cys Phe Leu Ser Arg Pro Arg Arg Phe Gly Lys Ser Leu Leu Leu  
     50                       55                       60  
 Ser Ser Phe Glu Ala Tyr Phe Gln Gly Lys Lys Glu Leu Phe Arg Gly  
     65                       70                       75                       80  
 Leu Ala Ile Glu Lys Leu Glu Lys Glu Trp Leu Gln Tyr Pro Val Leu  
     85                       90                       95  
 His Leu Ser Leu Asn Ala Glu Lys Tyr Asp Ser Arg Glu Gly Leu Ile  
     100                       105                       110  
 Asp Ile Leu Glu Arg Gln Leu Arg Gln Trp Glu Glu Leu Tyr Arg Thr  
     115                       120                       125  
 Gly Arg Glu Gly Ile Thr His Ser Gly Arg Phe Met Thr Val Ile Arg  
     130                       135                       140  
 Arg Ala Cys Glu Gln Thr Gly Arg Arg Val Val Val Leu Ile Asp Glu  
     145                       150                       155                       160  
 Tyr Asp Lys Pro Leu Leu Arg Ser Phe Asp Ser Gln Glu Leu Gln His  
     165                       170                       175  
 Asp Phe Arg Glu Thr Leu Thr Ala Phe Tyr Thr Val Leu Lys Asp Ala  
     180                       185                       190  
 Asp Pro Trp Leu Gln Phe Val Phe Ile Thr Gly Val Thr Lys Phe Ala  
     195                       200                       205  
 Gln Met Gly Ile Phe Ser Asn Leu Asn Gln Leu Asn Asp Ile Ser Phe  
     210                       215                       220  
 Asp Leu Asp Tyr Asn Thr Leu Cys Gly Met Thr Arg Ala Glu Ile Glu  
     225                       230                       235                       240  
 Ala Thr Phe Ser Pro Glu Leu Glu Ala Leu Ala Val Lys Ser Asn Ala  
     245                       250                       255  
 Thr Cys Arg Gln Val Met Asp Arg Leu Thr Arg Gln Tyr Asp Gly Tyr  
     260                       265                       270  
 Arg Phe Thr Lys Asp Glu Glu Phe Thr Ser Met Tyr Asn Pro Phe Ser  
     275                       280                       285  
 Val Leu Ser Ala Leu Gln Lys Arg Ser Tyr Gly Asn Tyr Trp Phe Ala  
     290                       295                       300  
 Ser Gly Thr Pro Thr Phe Leu Val Glu Met Leu Gln Lys Thr Asp Phe  
     305                       310                       315                       320  
 Asp Leu Arg Glu Met Glu Gly Ile Glu Val Asn Glu Ala Ser Leu Ser  
     325                       330                       335  
 Asp Asp Arg Ala Asp Ile Asn Asn Pro Ile Pro Met Ile Tyr Gln Ser  
     340                       345                       350  
 Gly Tyr Leu Thr Ile Lys Asp Tyr Asp Glu Arg Phe Arg Met Tyr Thr  
     355                       360                       365  
 Leu Gly Phe Pro Asn Glu Glu Val Lys Tyr Gly Phe Leu Asn Phe Val  
     370                       375                       380  
 Ser Pro Phe Tyr Thr Pro Ile Ala Gln Thr Asp Thr Ser Phe Tyr Ile  
     385                       390                       395                       400  
 Gly Lys Phe Ile Arg Glu Leu Glu Ser Gly Asp Val Asp Ala Phe Leu  
     405                       410                       415  
 Thr Arg Leu Arg Cys Phe Phe Ala Gly Ile Pro Tyr Asp Leu Asn Asp  
     420                       425                       430  
 Arg Thr Glu Arg His Tyr Gln Thr Val Phe Tyr Leu Val Phe Gln Leu  
     435                       440                       445  
 Met Gly Gln Phe Thr Glu Thr Glu Val Arg Ser Ala Arg Gly Arg Ala  
     450                       455                       460  
 Asp Ala Val Val Lys Thr Pro Asp Tyr Ile Tyr Val Phe Glu Phe Lys  
     465                       470                       475                       480  
 Leu Asn Asp Ser Ala Glu Ala Ala Leu Arg Gln Ile Asp Glu Lys Gly

485	490	495
Tyr Leu Leu Pro Tyr Gln Ala Asp Gly Arg Lys Val Val Lys Val Gly		
500	505	510
Val Ala Phe Glu Lys Glu Glu Arg Asn Ile Gly Glu Trp Met Ile Gly		
515	520	525
Gly		

<210> 7248  
<211> 68  
<212> PRT  
<213> B.fragilis

<400> 7248

Thr Arg Ser Ala Ala Pro Gly Ile Leu Arg Asn Leu Pro Arg Ile Leu			
1	5	10	15
Lys Ser Met Tyr Val Ala Val Trp Ala Pro Ala Arg His Arg His Arg			
20	25	30	
Ser Gly Thr Trp Pro Phe Thr Asp Asn Arg Tyr Leu Asp Pro Gly Gly			
35	40	45	
Ile Phe Gly Ser Thr Thr Arg Lys Ile Gln Lys Lys Met Leu Ser Leu			
50	55	60	
Tyr Leu Arg Val			
65			

<210> 7249  
<211> 104  
<212> PRT  
<213> B.fragilis

<400> 7249

Arg Leu His Glu Gln Glu Glu Thr Val Lys Lys Asp Ile Arg Val Leu			
1	5	10	15
Arg Tyr Leu Ile Ala Lys Glu Glu Ala Ala Ser Pro Gln Ala Pro			
20	25	30	
Arg Lys Arg Lys Ile Pro Gln Lys Gln Ile Asn Asp Phe Phe Thr Arg			
35	40	45	
Ile Ala Leu Phe Tyr Glu Asp Leu Gln Arg Arg Leu Asn Leu Arg Ile			
50	55	60	
Thr Tyr Arg Cys Phe Cys Arg Trp Leu Cys Thr Arg Tyr Glu Phe Glu			
65	70	75	80
Ser Arg Tyr His Asp Arg His Lys Leu Ser Pro Cys Thr Ile Leu Gly			
85	90	95	
Tyr Phe Lys Arg Glu Arg Gly Gly			
100			

<210> 7250  
<211> 305  
<212> PRT  
<213> B.fragilis

<400> 7250

His Cys Ala Arg Val Gly Ser Phe Gln Pro Arg Gly Glu Asp Ile Arg			
1	5	10	15
Phe Asp Trp Ala Val Lys Arg Leu Leu Arg Asn Lys Ala Asn Phe Gly			
20	25	30	
Val Leu Glu Gly Phe Leu Thr Val Leu Leu Gly Glu Pro Ile Arg Ile			
35	40	45	
Val Glu Ile Leu Glu Ser Glu Gly Asn Gln Leu Asn Glu Thr Asp Lys			

50	55	60
Phe	Asn Arg Val Asp Ile Lys Ala Arg Asn Ser	Lys Asp Glu Ile Ile
65	70	75
Ile Val Glu Val Gln Asn Thr Arg Glu	Ile Tyr Tyr Leu Glu Arg Ile	80
85	90	95
Leu Phe Gly Val Ala Lys Ala Ile Thr	Glu His Ile Glu Leu Gly Gln	
100	105	110
Leu Tyr Ser Glu Val Lys Lys Val	Tyr Ser Ile Ser Ile Leu Tyr Phe	
115	120	125
Asp Ile Gly Arg Gly Thr Asp Tyr	Leu Tyr His Gly Gln Asn Ser Phe	
130	135	140
Val Gly Val His Thr Gly Asp Phe	Leu Glu Val Ser Thr Lys Glu Lys	
145	150	155
Asp Ala Ile Val Arg Lys Leu Pro Ala	Glu Ile Phe Pro Glu Tyr Phe	160
165	170	175
Leu Ile Arg Val Asn Glu Phe Asn	Lys Val Ala Val Thr Pro Leu Glu	
180	185	190
Glu Trp Ile Glu Tyr Leu Lys Thr	Gly Val Ile His Pro Asp Thr Lys	
195	200	205
Ala Pro Gly Leu Glu Ala Arg Arg Lys	Leu Val Tyr Tyr Asn Met	
210	215	220
Asn Lys Ala Glu Gln Leu Ala Tyr Asp	Glu His Ile Asn Ala Ile Met	
225	230	235
Ile Gln Asn Asp Val Leu Ser Thr Ala	Ala Met Glu Gly Arg Gln Glu	240
245	250	255
Ser Leu Ala Glu Gly Arg Gln Gly	Gly Leu Ala Glu Ser Arg Met Gly	
260	265	270
Glu Lys Gln Ala Asn Ala Pro Glu	Ile Glu Ala Leu Thr Leu Pro Val	
275	280	285
Glu Thr Ile Cys Gln Val Thr	Gly Leu Ser Ala Gly Glu Ile Glu Asn	
290	295	300
Leu		
305		

<210> 7251  
<211> 74  
<212> PRT  
<213> B.fragilis

<400> 7251
Ile Arg Val Val Ser Leu Val Val Gln His Val Lys Tyr Arg Arg Lys
1 5 10 15
Cys Tyr Leu Cys Ile Tyr Glu Tyr Lys Lys Asn Lys Glu Glu Cys Gln
20 25 30
Leu Leu His Pro Leu His Phe Val Thr Lys Cys Glu Asn Leu Lys Asn
35 40 45
Asn Cys Val His Leu Gln Lys Thr Asn Phe Asn Ala Pro Trp Ile His
50 55 60
Arg Ser Met Pro Arg Leu Glu Asn Ser Arg
65 70

<210> 7252  
<211> 509  
<212> PRT  
<213> B.fragilis

<400> 7252
Met Leu Asn Phe Asn Trp Val Lys Met Lys Lys Thr Ile Phe Leu Ser
1 5 10 15

Thr Ile Ile Leu Leu Leu Thr Ala Cys Gln Asp Tyr Leu Glu Thr Asn  
     20               25               30  
 Pro Asp Ser Thr Phe Asp Val Gln Ile Asp Ser Glu Asp Lys Ile Ala  
     35               40               45  
 Glu Leu Leu Ala Gly Ala Tyr Pro Glu Ala Ser Tyr Phe Ala Phe Leu  
     50               55               60  
 Glu Ala Arg Thr Asp Asn Val Gly Glu Arg Thr Asn Gly Ile His Ser  
     65               70               75               80  
 Arg Leu Asn Glu Ala Met Tyr Tyr Trp Glu Asp Tyr Asp Gln Glu Asp  
     85               90               95  
 Leu Asp Thr Pro Leu Asn Tyr Trp Asn Ala Cys Tyr Ala Gly Ile Ala  
     100              105              110  
 Gln Ala Asn Gln Ala Leu Glu Leu Leu Ser Lys Tyr Pro Lys Ser Asp  
     115              120              125  
 Arg Val Lys Ala Leu Tyr Gly Glu Ala Phe Leu Leu Arg Ala Tyr Leu  
     130              135              140  
 His Phe Met Leu Val Asn Ile Trp Ala Glu Pro Tyr Gly Thr Thr Lys  
     145              150              155              160  
 Ser Ala Thr Ala Pro Gly Ile Pro Tyr Leu Thr Arg Pro Glu Lys Asn  
     165              170              175  
 Ala Leu Val Asp Tyr Glu Arg Gly Thr Val Lys Glu Val Tyr Glu Lys  
     180              185              190  
 Ile Glu Lys Asp Leu Lys Leu Gly Leu Ser Leu Val Asn Asp Asp Tyr  
     195              200              205  
 Tyr Val Lys Pro Lys Phe His Phe Asn Lys Lys Ala Ala Tyr Ala Phe  
     210              215              220  
 Ala Ser Arg Phe Tyr Leu Ile Lys Gly Glu Trp Asp Leu Val Val Ser  
     225              230              235              240  
 Tyr Ser Asp Tyr Val Leu Gly Val Asp Pro Lys Pro Val Leu Arg Asn  
     245              250              255  
 Trp Gln Lys Tyr Lys Lys Glu Phe Asn Ser Asn His Lys Tyr Leu Tyr  
     260              265              270  
 Ile Arg Tyr Ala Ser Val Asp Glu Pro Ala Asn Leu Leu Leu Thr Thr  
     275              280              285  
 Thr Glu Ser Arg Val Ala Arg Asn Ile Pro Ser Glu Lys Tyr Gly Val  
     290              295              300  
 Thr Ile Gln Ser Ala Glu Lys Val Tyr Asn Glu His Gly Ile Asp Gly  
     305              310              315              320  
 Cys Phe Asn Phe Arg Lys Met Lys Met Gln Ser Phe Phe Leu Phe Asn  
     325              330              335  
 Tyr Asn Asp Gly Arg Ile Asp Asp Gly Gln Tyr Ile Ala Lys Phe Asp  
     340              345              350  
 Glu Leu Ser Leu Ser Gly Tyr Thr Gly Ile Arg Pro Arg Gly Leu Tyr  
     355              360              365  
 Val Thr Asn Val Leu Phe Ser Thr Asp Glu Val Met Leu Asn Arg Met  
     370              375              380  
 Glu Ala Tyr Thr Met Leu Gly Glu Tyr Asp Lys Ala Ile Asp Asn Leu  
     385              390              395              400  
 Leu Val Tyr Leu Ser Val Lys Tyr Gly Val Tyr Pro Ser Cys Gly Arg  
     405              410              415  
 Ser Thr Tyr Thr Gln Thr Ser Ser Glu Asn Tyr Gln Ile Tyr Thr Pro  
     420              425              430  
 Phe Tyr Gly Met Ser Ile Asn Gln Leu Ala Leu Val Lys Ile Leu Leu  
     435              440              445  
 Gly Phe Arg Arg Gln Glu Phe Leu His Glu Gly Leu Arg Trp Phe Asp  
     450              455              460  
 Ile Arg Arg Phe Tyr Ile Ser Val Lys Arg Thr Ser Lys Tyr Lys Phe  
     465              470              475              480  
 Tyr Arg Pro Leu Glu Lys Glu Asp Ser Arg Lys Leu Leu Gln Ile Pro

485

490

495

Ala Glu Ala Ile Asn Arg Gly Leu Val Pro Asn Pro Arg  
 500 505

&lt;210&gt; 7253

&lt;211&gt; 362

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7253

Ile Phe Asp Phe Thr Leu Arg Lys Asn Met Lys Lys Met Asn Tyr Leu  
 1 5 10 15  
 Leu Lys Cys Leu Phe Leu Ser Cys Leu Leu Ile Ser Val Val Ala Cys  
 20 25 30  
 Thr Asp Gly Ile Asn Glu Thr Val Ile Ser Ala Tyr Gln Leu Pro Val  
 35 40 45  
 Leu Pro Glu Pro Ser Tyr Lys Phe Ser Arg Asn Gly Glu Ser Ser Val  
 50 55 60  
 Asn Val Leu Glu Cys Gly Phe Leu Lys Ser Pro Ile Asp Arg Ile Phe  
 65 70 75 80  
 Ser Glu Tyr Met Asn Glu Ala Arg Met Ser Thr Lys Arg Asp Tyr Asp  
 85 90 95  
 Glu Ala Leu Arg Ile Tyr His Glu Gly Asn Phe Gly Leu Lys Pro Gln  
 100 105 110  
 Lys Glu Val Ser Ala Ser Ser Lys His Leu Lys Asp Arg Asp Lys Ile  
 115 120 125  
 Leu Lys Asp Ile Asp Ala Trp Phe Glu Thr Ser Ala Arg Ile Ala Gly  
 130 135 140  
 Leu Gly Ala Asn Ile Pro Ser Tyr Glu His Arg Asn Arg Glu Ala Val  
 145 150 155 160  
 Lys Gly Leu Thr Gly Tyr Val Gly Asn Gly Ile Gly Asp Lys Asp Ile  
 165 170 175  
 Cys Tyr Val Asp Glu Arg Gly Ile Ala Val Ala Glu Val Tyr Lys Tyr  
 180 185 190  
 Ala Ile Met Gly Ala Ile Tyr Leu Asp Lys Ile Leu Asn Ile His Leu  
 195 200 205  
 Ser Glu Gln Ile Leu Glu Asn Asn Glu Val Leu Val Arg Asn Asp Leu  
 210 215 220  
 Thr Gln Leu Leu Pro Gly His Asn Tyr Thr Glu Leu Glu His His Trp  
 225 230 235 240  
 Asp Leu Ala Tyr Gly Tyr Tyr Asp Phe Trp Lys Thr Leu Ala Gln Ser  
 245 250 255  
 Asp Gly Leu Pro Ala Leu Lys Asp Cys His Leu Arg Ile Ser Arg Ser  
 260 265 270  
 Phe Val Lys Gly Arg Ala Leu Met Thr Thr Ser Gln Tyr Asp Glu Met  
 275 280 285  
 Arg Leu Gln Ala Asp Thr Ile Arg Gln Glu Leu Ser Arg Val Val Ala  
 290 295 300  
 Ile Arg Ala Met His Leu Leu Val Gly Pro Asn Thr Leu Ala Asn Leu  
 305 310 315 320  
 Lys Glu Asn Pro Arg Arg Ala Phe Arg Leu Leu Ser Gln Ala Tyr Gly  
 325 330 335  
 Leu Ile Tyr Ala Ala Gln Phe Ala Arg Asn Met Glu Gly Lys Ser Leu  
 340 345 350  
 Ser Ser Pro Arg Gly Trp Lys Asp Arg Gln  
 355 360

&lt;210&gt; 7254

&lt;211&gt; 67

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7254

Glu	Arg	Asn	Asn	Glu	Gln	Ile	Gln	Thr	Ser	Ser	Lys	Lys	Val	Ser	Glu
1				5					10				15		
Ile	His	Phe	Ser	Asn	Asn	Cys	Phe	His	Met	Leu	Asp	Phe	Ile	Leu	Glu
									20		25		30		
Ser	Ser	Ser	Ile	Ile	Leu	Tyr	Arg	Gly	Leu	Gly	Thr	Ser	Pro	Arg	Leu
									35		40		45		
Met	Ala	Ser	Ala	Gly	Ile	Cys	Lys	Ser	Phe	Leu	Glu	Ser	Ser	Phe	Ser
									50		55		60		
Asn	Gly	Leu													
															65

&lt;210&gt; 7255

<211> 344  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7255

Phe	Lys	Asn	Lys	Ile	Lys	His	Met	Lys	Thr	Ile	Ile	Arg	Lys	Val	Asn
1						5			10				15		
Phe	Arg	Tyr	Phe	Phe	Arg	Arg	Ser	Leu	Tyr	Leu	Leu	Val	Ile	Ser	Phe
									20		25		30		
Leu	Leu	Ala	Gly	Cys	Glu	Glu	Glu	Ala	Ser	Leu	Ser	Ala	Arg	Ser	Val
									35		40		45		
Val	Glu	Ala	Gly	Glu	Thr	Glu	Arg	Glu	Lys	Thr	Glu	Leu	Asp	Lys	Trp
									50		55		60		
Ile	Leu	Asp	Thr	Phe	Thr	Arg	Pro	Tyr	Gly	Ile	Glu	Val	Glu	Tyr	Arg
									65		70		75		80
Trp	Asp	Lys	Asn	Ala	Val	Gln	Asn	Gly	Ser	Tyr	Ile	Tyr	Pro	Pro	Glu
									85		90		95		
Val	Ala	Asn	Val	Lys	Ser	Val	Leu	Asn	Thr	Ile	Lys	Thr	Leu	Trp	Ile
									100		105		110		
Asp	Leu	Tyr	Thr	Ala	Pro	Glu	Leu	Gly	Gly	Asp	Lys	Phe	Leu	Leu	Gly
									115		120		125		
Lys	Asn	Pro	Leu	Lys	Ile	Tyr	Met	Tyr	Gly	Gly	Arg	Asn	Val	Asp	Gly
									130		135		140		
Asn	Gly	Met	Glu	Leu	Leu	Asp	Asn	Leu	Glu	Ala	Thr	Thr	Asn	Glu	Met
									145		150		155		160
Phe	Leu	Tyr	Asn	Val	Asn	Glu	Phe	Asn	Pro	Gln	Asp	Glu	Asp	Lys	Val
									165		170		175		
Phe	Ile	Leu	Met	Arg	Ser	Val	His	His	Gln	Phe	Ala	Arg	His	Leu	Met
									180		185		190		
Glu	Leu	Phe	Pro	Tyr	Asp	Arg	Ser	Lys	Phe	Leu	Ser	Ile	Ser	Arg	Asn
									195		200		205		
Lys	Tyr	Ile	Glu	Ser	Thr	Lys	Ser	Ile	Ala	Trp	Ile	Phe	Lys	Glu	
									210		215		220		
Thr	Gln	Gly	Arg	Arg	Gly	Phe	Ile	Leu	Ala	Gly	Tyr	Pro	Asn	Lys	Lys
									225		230		235		240
Gly	Phe	Phe	Thr	Phe	His	Ser	Leu	Leu	Ser	Pro	Glu	Lys	Asp	Phe	Ala
									245		250		255		
Glu	Ile	Ile	Ser	Leu	Lys	Leu	Thr	Tyr	Gly	Pro	Lys	Asp	Leu	Leu	Gln
									260		265		270		
Ala	Leu	Asp	Arg	Ala	Lys	Thr	Pro	Tyr	Asn	Ala	Gly	Ser	Asp	Lys	Asp
									275		280		285		
Leu	Gln	Lys	Glu	Tyr	Asp	Glu	Gln	Ala	Leu	Gln	Ala	Tyr	Lys	Glu	Leu
									290		295		300		

Val Glu Lys Gln Ala Phe Val Glu Asp Tyr Phe Ser Lys Glu Ile Lys  
 305 310 315 320  
 Ile Ser Leu Asn Tyr Leu Gln Leu Ile Ser Met Lys Gln Val Lys Glu  
 325 330 335  
 Phe Ile Asn Lys Asn Lys Glu  
 340

<210> 7256

<211> 345

<212> PRT

<213> B.fragilis

<400> 7256

Glu Arg Met Lys Leu Gly Phe Gln Ile Leu Ile Leu Met Val Phe Cys  
 1 5 10 15  
 Phe Ser Cys Lys Asp Glu Lys Val Phe Asp Ser Ser Pro Ser Glu Arg  
 20 25 30  
 Asn Ala Asn His Ile Gly Glu Leu Arg Lys Glu Leu Val Asn Ala Pro  
 35 40 45  
 Tyr Gly Trp Ala Val Thr Tyr Phe Pro Arg Thr Asp Ser Leu Leu Phe  
 50 55 60  
 Thr Asn Val Asn Glu Leu Ile Thr Leu Pro Lys Gly Ile Phe Glu Asp  
 65 70 75 80  
 Lys Asn Lys Tyr Gly Tyr Gly Gly His Tyr Phe Leu Met Lys Phe Ser  
 85 90 95  
 Glu Asn Gly Ile Val Glu Thr Val Ala Asp Tyr Asn Glu Glu Ser Leu  
 100 105 110  
 Thr Lys Lys Leu Gln Ser Glu Phe Glu Val Ser Gln Asn Thr Phe Thr  
 115 120 125  
 Gln Leu Ser Phe Thr Thr Tyr Thr Tyr Leu His Ser Leu Val Asn Asp  
 130 135 140  
 Arg Phe Thr Gly Ser Ser Asp Phe Leu Tyr Thr Gly Lys Asp Val Asp  
 145 150 155 160  
 Gly Asn Leu Ile Phe Lys Thr Ser Ser Tyr Ile Glu Pro Ala Arg Glu  
 165 170 175  
 Tyr Ile Ile Phe Thr Lys Leu Lys Asn Asp Glu Ser Trp Gln Glu Asp  
 180 185 190  
 Ile Gln Lys Ser Tyr Asp Asn Lys Leu Phe Phe Glu Lys Met Lys Asn  
 195 200 205  
 Pro Gln Leu Ile Ile Arg Arg Ala Gly Arg Val Tyr Phe His Ser Asp  
 210 215 220  
 Val Gln Met Asn Val Thr Tyr Gly Gly Asp Gly Ser Val Asn Gly Lys  
 225 230 235 240  
 Gln Pro Pro Glu Val Tyr Gln Arg Tyr Arg Leu Phe Leu Ala Arg Asp  
 245 250 255  
 Tyr Phe Ala Ser Gln Gly Trp Leu Gly Asn Lys Val Lys Gly Leu Gly  
 260 265 270  
 Ser Gly Tyr Val Gly Thr Ala Ala Gly Leu Thr Phe Lys Pro Gly Ile  
 275 280 285  
 Arg Tyr Ser Glu Thr Tyr Ile Phe Tyr Asp Phe Arg Arg Glu Gly Glu  
 290 295 300  
 Arg Phe Val Cys Glu Leu Val Lys Val Val Asp Pro Tyr Ser Lys Lys  
 305 310 315 320  
 Ile His Trp Val Ser Lys His Leu Ala Pro Tyr Gly Glu Glu Ser Gly  
 325 330 335  
 Val Ile Ala Glu Ile Arg Asp Glu Ile  
 340 345

<210> 7257

<211> 227  
<212> PRT  
<213> B.fragilis

<400> 7257

Leu	Lys	Ser	Gly	Met	Lys	Phe	Lys	Leu	Glu	Asn	Asn	Arg	Ile	Asn	Met
1				5				10					15		
Lys	His	Val	Trp	Ile	Ile	Ser	Cys	Leu	Leu	Phe	Val	Cys	Ser	Cys	Asn
				20				25					30		
Thr	Val	Arg	Glu	Asp	Phe	Val	Val	Asn	Glu	Asp	Tyr	Glu	Lys	Leu	Phe
				35				40					45		
Pro	Ser	Lys	Glu	Ile	Glu	Lys	Pro	Glu	Asn	Lys	Arg	Gly	Glu	Leu	Leu
				50				55				60			
Val	Gln	Leu	Cys	Asp	Pro	Asp	Gln	Ala	Leu	Glu	Asn	Tyr	Lys	Tyr	Pro
				65				70				75			80
Gly	Thr	Glu	Thr	Pro	Asn	Gly	Ala	Asp	Gln	Tyr	Lys	Ile	Thr	Leu	Met
				85				90				95			
Cys	Ser	Phe	Gln	Glu	Lys	Arg	Trp	Asp	Gly	Asn	Leu	Thr	Lys	Asp	Val
				100				105				110			
Ser	Ala	Gln	Tyr	Lys	Val	Lys	Tyr	Ile	Asn	Glu	Lys	Lys	Glu	Leu	Val
				115				120				125			
Thr	Ile	Ser	Cys	Gly	Lys	Arg	Asn	Ile	Gly	Asn	Ala	Gly	Glu	Asp	Ala
				130				135				140			
Asp	Gly	Leu	Arg	Pro	Asn	Val	Met	Phe	Asn	Gly	Glu	Lys	Leu	Glu	Ile
				145				150				155			160
Ser	Phe	Asn	Val	His	Ser	Gly	Phe	Pro	Leu	Tyr	Leu	Ser	Val	Ser	Gly
				165				170				175			
Glu	Gly	Pro	Arg	Ser	Ser	Asn	Ile	Arg	Ala	Ser	Ile	Thr	Ala	Val	Ser
				180				185				190			
Thr	Asp	Gly	Leu	Val	Glu	Ile	Pro	Ser	Leu	Gln	Thr	Glu	Gln	Tyr	Gln
				195				200				205			
Asn	Glu	Glu	Gly	Ile	Asn	Pro	Leu	Arg	Tyr	Pro	Tyr	Cys	Glu	Tyr	Leu
				210				215				220			
Ile	Leu	Pro													
				225											

<210> 7258  
<211> 646  
<212> PRT  
<213> B.fragilis

<220>  
<221> UNSURE  
<222> (4)  
<223> Identity of amino acid sequences at the above locations are unknown.

<400> 7258

Leu	Gly	Phe	Xaa	Asn	Ile	Leu	Asn	Glu	Tyr	Glu	Asn	Asn	Tyr	Leu	Lys
1					5			10					15		
Thr	Glu	Val	Leu	Asp	Leu	Lys	Leu	Gln	Gly	Glu	Leu	Ser	Tyr	Arg	Leu
					20			25					30		
Asn	Asp	His	Ile	Glu	Val	Lys	Gly	Leu	Ala	Met	Val	Arg	His	Ala	Val
					35			40				45			
Thr	Lys	Ser	Ser	His	Phe	Ile	Ala	Glu	Ala	Ser	Asn	Val	Val	Gln	Ala
					50			55				60			
Phe	Arg	Ala	Asn	Glu	Thr	Pro	Tyr	Val	Ala	Arg	Glu	Asn	Ile	Tyr	Leu
					65			70				75			80
Leu	Lys	Asn	Lys	Asp	Asp	Pro	Met	Gln	Leu	Pro	Gly	Val	Ala	Leu	Thr
					85			90				95			

His Gly Gly Ile Phe Asn Lys Thr Glu Thr Ser Leu Arg Ser Tyr Leu  
     100                       105                       110  
 Gly Arg Leu Ala Leu Asp Tyr Asn Arg Gln Leu Ser Glu His Asn Ile  
     115                       120                       125  
 Arg Ala Phe Gly Phe Thr Glu Ile Arg Tyr Ala Asp Arg Ser Met Asn  
     130                       135                       140  
 Pro Phe Gln Gly Tyr Gly Ile Gln Tyr Asp Arg Gly Asn Gln Val Phe  
     145                       150                       155                       160  
 Ser Asn Pro Leu Ile Phe Glu Lys Leu Ala Asn Glu Gly Asp Thr Tyr  
     165                       170                       175  
 Phe Ser Leu Thr Glu Arg Tyr Glu Arg Gly Val Thr Leu Ser Gly Ser  
     180                       185                       190  
 Ala Thr Tyr Gly Tyr Ala Gly Lys Tyr Ile Phe Asn Gly Val Phe Asn  
     195                       200                       205  
 Tyr Glu Gly Ala Asn Thr Ala Gly Lys Tyr Ser Arg Ser Arg Trp Leu  
     210                       215                       220  
 Pro Thr Trp Asn Ile Gly Ala Lys Trp Asn Leu Asp Gln Glu Lys Phe  
     225                       230                       235                       240  
 Met Arg Lys His Thr Thr Ile Ser Arg Leu Ala Leu Arg Thr Ser Tyr  
     245                       250                       255  
 Gly Leu Thr Ala Lys Met Asn Glu Gln Ala Val Asn Ser Thr Thr Val  
     260                       265                       270  
 Phe Lys His Val Met Val Asn Arg Thr Leu Leu Lys Asp Arg Glu Asn  
     275                       280                       285  
 Ala Leu Arg Ile Leu His Leu Glu Asn Arg Asp Leu Thr Trp Glu Lys  
     290                       295                       300  
 Met Tyr Glu Leu Asn Phe Gly Leu Glu Leu Gly Leu Phe Gly Asn Arg  
     305                       310                       315                       320  
 Ile Ser Ala Thr Phe Asp Val Tyr Gln Arg Asn Ser Phe Asp Leu Ile  
     325                       330                       335  
 Asp Leu Ile Arg Thr Ser Gly Val Gly Gly Gln Tyr Tyr Lys Tyr Ala  
     340                       345                       350  
 Asn Phe Gly Asp Met Arg Thr Arg Gly Val Glu Leu Ala Ile Gln Thr  
     355                       360                       365  
 Gln Asn Ile Leu Thr Asp Lys Phe Ser Trp Ser Thr Thr Val Thr Ile  
     370                       375                       380  
 Ser Gly Met Lys Gln Lys Ile Thr Arg Leu Leu Asn Thr Pro Asn Thr  
     385                       390                       395                       400  
 Phe Asp Met Val Ala Gly Thr Gly Arg Gly Asn Ile Val Gly Phe Pro  
     405                       410                       415  
 Arg Gly Ser Leu Phe Ser Phe Asn Phe Gln Gly Leu Asn Ser Asn Gly  
     420                       425                       430  
 Leu Pro Thr Phe Asp Phe Gly Leu Tyr Pro Ser Asn Lys Gly Ala Asn  
     435                       440                       445  
 Ser Glu Ile Ser Gly Ala Asp Phe Leu Asp Ala Gln Tyr Ser Lys Ser  
     450                       455                       460  
 Tyr Leu Ile Tyr His Gly Pro Ile Glu Pro Gln Tyr Ile Gly Gly Ile  
     465                       470                       475                       480  
 Ser Asn Thr Phe Lys Tyr Lys Asn Trp Glu Phe Ser Cys Phe Val Thr  
     485                       490                       495  
 Met Gln Ala Gly Asn Lys Ile Arg Met Asn Pro Ser Phe Asp Pro Ala  
     500                       505                       510  
 Phe Ala Asp Leu Asn Val Phe Ser Lys Glu Tyr Tyr Asn Arg Trp Leu  
     515                       520                       525  
 Asn Pro Gly Asp Glu Arg Lys Thr Asn Ile Pro Val Ile Pro Ser Gln  
     530                       535                       540  
 Asp Leu Ile His Asn Ile Gly Lys Glu Asn Ile Glu Lys Ala Tyr Asn  
     545                       550                       555                       560  
 Thr Tyr Asn Tyr Ser Gln Asn Arg Val Ala Asp Gly Ser Phe Val Arg

565	570	575
Met Lys Asn Ile Ser Leu Gly Tyr Arg	Leu Pro Gln Arg Phe	Leu Ser
580	585	590
His Leu Lys Ile Lys Gln Met Asn Val Lys Val Asn Val	Thr Asn Pro	
595	600	605
Phe Leu Ile Tyr Ser Asp Arg Lys Leu Asn Gly Gln Asp Pro Glu Phe		
610	615	620
Tyr Arg Ser Gly Gly Val Ser Leu Pro Thr Pro	Lys Gln Tyr Thr Met	
625	630	635
Thr Leu Asn Val Glu Phe		640
645		

&lt;210&gt; 7259

&lt;211&gt; 246

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7259

Pro Leu Trp Val Ile Asp Gly Ala Val Tyr Glu Asp Leu Val Ser Leu			
1	5	10	15
Thr Leu Asp Gln Leu Ala Ser Gly Asp Ala Val Thr Leu Ile Ser Ser			
20	25	30	
Ala Val Ala Gly Leu Asn Ala Ser Asp Ile Glu Asp Ile Gln Val Leu			
35	40	45	
Lys Asp Ala Ser Ala Thr Ser Ile Tyr Gly Ala Arg Ala Leu Asn Gly			
50	55	60	
Val Ile Val Ile Thr Thr Arg Ser Gly Lys Arg Asn Ala Pro Asn Arg			
65	70	75	80
Phe Ser Tyr Ser Tyr Glu Leu Ser Met Arg Ser Ile Pro Ser Tyr Thr			
85	90	95	
Asn Phe Asp Leu Leu Asn Ser Gln Glu Ser Met Ser Val Tyr Gln Glu			
100	105	110	
Met Gly Arg Lys Gly Tyr Phe Ser Leu Gln Asn Thr Leu Tyr Gly Arg			
115	120	125	
Arg Ser Gly Val Tyr Tyr Gln Met Tyr Lys Ala Leu Asn Thr Ile Asp			
130	135	140	
Pro Ala Thr Gly Gln Tyr Tyr Leu Glu Asn Thr Asp Asp Val Lys Arg			
145	150	155	160
Ala Phe Met Arg Glu Arg Glu Tyr Ala Asn Thr Asn Trp Phe Lys Glu			
165	170	175	
Leu Phe Thr His Arg Pro Ile His Thr His Thr Val Thr Phe Ser Gly			
180	185	190	
Gly Gly Glu Asn Ser Ala Met Tyr Ala Ser Ile Gly Phe Tyr Asp Asp			
195	200	205	
Arg Gly Trp Thr Leu Ala Asp Asn Val Lys Arg Ile Thr Ala Asn Ile			
210	215	220	
Lys Asn Ser Phe Tyr Trp Asn Glu Asp Lys Ile Lys Ala Thr Ile Ser			
225	230	235	240
Ala Gln Gly Lys Ser Thr			
245			

&lt;210&gt; 7260

&lt;211&gt; 170

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7260

Glu Ser Leu Ser Leu Cys His Ile Asp Cys Val Ser Leu His Ala Lys			
1	5	10	15

Thr Lys Lys Asp Asn Met Cys Gly Ile Val Gly Tyr Ile Gly Lys Arg  
   20               25               30  
 Glu Ala Tyr Pro Ile Leu Ile Lys Gly Leu Lys Arg Leu Lys Tyr Arg  
   35               40               45  
 Gly Tyr Asp Ser Ala Gly Val Ala Ile Ile Asn Asp Asn Gln Leu Leu  
   50               55               60  
 Asn Val Tyr Arg Pro Gln Gly Glu Thr Phe Val Phe Ala Ser Asp Gly  
   65               70               75               80  
 Ile Ile Glu Thr Pro Thr Val Ile Leu Gln Glu Phe Pro Ser Gln Ser  
   85               90               95  
 Tyr Ile Phe Arg Asn Ser Thr Tyr Thr Glu Val Pro Val Tyr Ser Phe  
  100              105              110  
 Ser Ser Phe Arg Pro Met His Gln Phe Cys Lys Ile Thr Ala Ser Arg  
  115              120              125  
 Ala Val Arg Pro Glu Thr Leu Lys Cys Ser Asp Ser Leu Ile Ile Arg  
  130              135              140  
 Glu Ala Phe Ser Asp Thr Leu Leu Gln Gly Gly Lys Asp Glu Ala Thr  
  145              150              155              160  
 Gly Ile Arg Glu Glu Ser Val Thr Met Glu  
  165              170

&lt;210&gt; 7261

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7261

Lys His Lys Ser Phe Lys Thr Ile Thr Ile Met Cys Gly Ile Ala Gly  
  1                5               10               15  
 Ile Phe Asn Ile Lys Ile Gln Ser Arg Glu Leu Arg Asn Lys Ala Leu  
  20              25              30  
 Arg Met Ala Arg Lys Ile Arg His Arg Gly Pro Asp Trp Ser Gly Met  
  35              40              45  
 Tyr Cys Gly Gly Ser Ala Ile Leu Ala Thr Arg Ala Pro Phe His Ser  
  50              55              60  
 Arg Ser Ala Lys Arg Arg Thr Ala Ser Phe Ile His Pro Thr Gly Ser  
  65              70              75              80  
 Lys Tyr Trp Arg Leu Thr Ala Lys Ser Ile Thr Thr Val Thr Ser Ala  
  85              90              95  
 Pro Asn Met Pro Ala Ala Thr Ser Ser Gly Pro Gly Val Thr Val Arg  
  100             105             110

&lt;210&gt; 7262

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7262

Asp Met Lys Ser Met Asn Tyr Ser Leu Ile Arg Thr Ile Cys Ala Leu  
  1                5               10               15  
 Val Ile Gly Leu Val Leu Val Leu Trp Pro Asp Ala Ala Ile Asn Tyr  
  20              25              30  
 Ile Val Ile Thr Ile Gly Val Leu Phe Leu Ile Pro Gly Phe Ile Val  
  35              40              45  
 Leu Ile Gly Tyr Phe Gly Thr Lys Pro Glu Pro Gly Val Ser Arg Arg  
  50              55              60  
 Phe Pro Ile Glu Gly Val Gly Ser Leu Leu Phe Gly Leu Trp Leu Val  
  65              70              75              80  
 Thr Met Pro Gly Phe Phe Ala Asp Val Leu Met Phe Leu Leu Gly Phe

85	90	95
Ile Leu Ile Met Gly Gly Val Gln Gln	Ile Ala Ser Leu Ser	Met Ala
100	105	110
Arg Arg Trp Thr Pro Val Pro Gly Gly Phe Tyr Val	Ile Pro Val Leu	
115	120	125
Ile Leu Ile Ala Gly Ile Val Ala Leu Phe Asn Pro Thr Gly Ala Arg		
130	135	140
Asn Thr Ala Phe Met Ile Ile Gly Val Ser Ser	Leu Val Tyr Ala Val	
145	150	155
Ser Glu Leu Ile Asn Trp Phe Lys Phe Ala Arg Arg Arg Pro Lys Thr		
165	170	175
Pro Leu Lys Gly Glu Ile Glu Asp Ala Glu Ile Ile Glu		
180	185	

&lt;210&gt; 7263

&lt;211&gt; 220

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7263

Asp Ser Val Ser Leu Cys Gly Glu Pro Asn Phe Lys Pro Lys Met Met		
1	5	10
Asn Asp Lys Leu Ile Lys Val Cys Gly Met Arg Glu Ala Glu Asn Ile		
20	25	30
Arg Glu Val Glu Gln Leu Lys Val Asp Met Ile Gly Phe Ile Phe Tyr		
35	40	45
Pro Lys Ser Pro Arg Cys Leu Tyr Glu Leu Pro Ala Tyr Met Pro Val		
50	55	60
Lys Ala Lys Arg Val Gly Val Phe Val Asn Glu Asp Lys Lys Glu Ile		
65	70	75
Glu Ile Phe Ala Asp Arg Phe Ser Leu Asp Tyr Ile Gln Leu His Gly		
85	90	95
Asn Glu Ser Pro Glu Tyr Cys His Ser Leu Arg Ala Thr Gly Leu Arg		
100	105	110
Leu Ile Lys Ala Phe Ser Ile Ala Arg Arg Lys Asp Phe Glu Asn Ile		
115	120	125
Gly Thr Tyr Glu Glu Ser Cys Asp Tyr Phe Leu Phe Asp Thr Lys Cys		
130	135	140
Glu Gln His Gly Gly Ser Gly Asn Gln Phe Asp Trp Ser Met Leu Asn		
145	150	155
Ser Tyr Lys Gly Lys Lys Pro Phe Leu Leu Ser Gly Gly Ile Asn Pro		
165	170	175
Tyr Ser Pro Pro Thr Leu Lys Glu Leu Arg His Pro Gln Leu Ala Gly		
180	185	190
Phe Asp Leu Asn Ser Arg Phe Glu Thr Lys Pro Gly Leu Lys Asp Val		
195	200	205
Glu Arg Leu Arg His Phe Leu Glu Glu Leu Arg Lys		
210	215	220

&lt;210&gt; 7264

&lt;211&gt; 774

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7264

Phe Tyr Tyr Pro Lys Met Lys Met Lys Tyr Ile Phe Phe Leu Val		
1	5	10
Ser Leu Cys Cys Ala Leu Leu Pro Ala Met Ala Asp Gln Pro Glu His		
20	25	30

Pro Glu Leu Lys Ala Ser Asp Ala Asn Ile Ile Gly His Val Leu Asp  
     35                        40                        45  
 Lys Lys Thr Gly Glu His Leu Ser Tyr Ile Thr Ile Ala Leu Lys Gly  
     50                        55                        60  
 Thr Thr Ile Gly Thr Val Thr Asp Ala Thr Gly His Tyr Phe Leu Lys  
     65                        70                        75                        80  
 Asn Leu Pro Glu Gly Asn Phe Val Leu Glu Ala Ser Ser Val Gly Tyr  
     85                        90                        95  
 Lys Thr Ile Ser Arg Asn Val Ser Leu Arg Lys Gly Lys Thr Leu Glu  
     100                       105                       110  
 Glu Asn Phe Glu Leu Glu Glu Asp Ala Val Ala Leu Asp Gly Val Val  
     115                       120                       125  
 Val Ser Ala Asn Arg Ser Val Thr Lys Arg Arg Leu Ala Pro Thr Leu  
     130                       135                       140  
 Val Asn Val Val Asp Met Lys Met Phe Glu Asn Thr Asn Ser Pro Thr  
     145                       150                       155                       160  
 Leu Ser Gln Gly Leu Asn Phe Gln Pro Gly Val Arg Val Glu Thr Asn  
     165                       170                       175  
 Cys Gln Asn Cys Gly Phe Gln Gln Val Arg Ile Asn Gly Leu Asp Gly  
     180                       185                       190  
 Pro Tyr Thr Gln Ile Leu Ile Asp Ser Arg Pro Ile Phe Ser Ala Leu  
     195                       200                       205  
 Ser Gly Val Tyr Gly Leu Glu Gln Ile Pro Ala Asn Met Ile Glu Arg  
     210                       215                       220  
 Val Glu Val Met Arg Gly Gly Ser Ala Leu Phe Gly Ser Ser Ala  
     225                       230                       235                       240  
 Ile Ala Gly Thr Ile Asn Ile Ile Thr Lys Glu Pro Leu Arg Asn Ser  
     245                       250                       255  
 Gly Gln Leu Ala His Thr Leu Thr Ser Ile Gly Gly Ser Ser Ser Phe  
     260                       265                       270  
 Asp Asn Asn Thr Ser Leu Asn Ala Ser Leu Val Thr Asp Asp His Arg  
     275                       280                       285  
 Ala Gly Leu Tyr Val Phe Gly Gln Asn Arg His Arg Asp Ala Tyr Asp  
     290                       295                       300  
 His Asp Gly Asp Gly Tyr Ser Glu Met Pro Lys Leu Lys Asn Gln Thr  
     305                       310                       315                       320  
 Val Gly Phe Arg Ser Phe Leu Lys Thr Ser Thr Tyr Ser Lys Leu Thr  
     325                       330                       335  
 Phe Glu Tyr His His Leu Gln Glu Phe Arg Arg Gly Gly Asn Leu Leu  
     340                       345                       350  
 Asn Arg Pro Pro His Glu Ala Asp Ile Ala Glu Gln Ile Gln His Ser  
     355                       360                       365  
 Ile Asn Gly Gly Leu Lys Phe Asp Tyr Phe Ala Pro Asn Glu Lys  
     370                       375                       380  
 His Arg Leu Thr Val Tyr Thr Ser Ala Gln His Thr Asp Arg Asp Ser  
     385                       390                       395                       400  
 Tyr Tyr Gly Ser Lys Lys Asp Gln Asn Ala Tyr Gly Lys Thr Thr Asp  
     405                       410                       415  
 Leu Thr Phe Ile Gly Gly Ser Gln Tyr Val Tyr Ser Phe Gly Lys Cys  
     420                       425                       430  
 Leu Phe Met Pro Ala Asp Leu Thr Ala Gly Leu Glu Tyr Asn Arg Asp  
     435                       440                       445  
 Asn Leu Lys Asp Asp Met Trp Gly Tyr Asn Arg Tyr Thr Lys Gln Thr  
     450                       455                       460  
 Val Asn Ile Gly Ser Ala Phe Leu Gln Asn Glu Trp Lys Asn Glu Lys  
     465                       470                       475                       480  
 Trp Ser Ile Leu Leu Gly Gly Arg Leu Asp Lys His Asn Leu Ile Asn  
     485                       490                       495  
 His Val Ile Phe Ser Pro Arg Ala Asn Leu Arg Phe Asn Pro Ser Glu

500	505	510
Asp Ile Asn Leu Arg Leu Ser Tyr	Ser Ser Gly Phe Arg	Ala Pro Gln
515	520	525
Ala Phe Asp Glu Asp Leu His Ile Glu Asn Val Gly	Gly Thr Val Ser	
530	535	540
Met Ile Glu Arg Ala Lys Asn Leu Lys Glu Glu Lys	Ser Gln Ser Phe	
545	550	555
Ser Ala Ser Ala Asp Met Tyr His Arg Phe Gly Ala	Phe Gln Val Asn	
565	570	575
Phe Leu Val Glu Gly Phe Tyr Thr Arg Leu Ser Asp Val	Phe Val Leu	
580	585	590
Glu Asn Ile Gly Glu Arg Asp Gly Ile Leu Ile Lys	Glu Arg Arg Asn	
595	600	605
Gly Ser Gly Ala Lys Val Leu Gly Leu Ser Met	Glu Gly Lys Met Ala	
610	615	620
Tyr Leu Ser Leu Phe Gln Leu Gln Ala Gly Val	Thr Leu Gln Gln Ser	
625	630	635
Arg Tyr Asp Glu Pro Glu Lys Trp Ser Glu Thr Ala	Pro Ala Glu Lys	
645	650	655
Lys Ile Phe Arg Thr Pro Asn Thr Tyr Gly Tyr Phe	Thr Ala Thr Tyr	
660	665	670
Thr Pro Ile Lys Pro Leu Ser Leu Ser Leu Ser Gly	Thr Tyr Thr Gly	
675	680	685
Ser Met Leu Val Gln His Met Ala Gly Tyr Ile Asp	Lys Asp Val Ala	
690	695	700
Val Asn Thr Arg Asp Phe Phe Asp Met Gly Val	Lys Val Ala Tyr Asp	
705	710	715
Phe Lys Leu Tyr Lys Ser Val Asp Leu Gln Leu Ser	Ala Gly Val Gln	
725	730	735
Asn Val Phe Asn Ala Tyr Gln Asn Asp Phe Asp Gln	Gly Val Glu Arg	
740	745	750
Asp Ser Gly Tyr Ile Tyr Gly Pro Ala Ala Pro Arg	Ser Tyr Phe Ala	
755	760	765
Gly Ile Lys Ile Ser Tyr		
770		

&lt;210&gt; 7265

&lt;211&gt; 214

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7265

Pro Thr Leu Pro Ile Met Ala Leu Lys Glu Lys Ile Lys	Gln Asn Pro		
1	5	10	15
Ala Leu Lys Gln Ala Val His Arg Phe Ile Met His Pro	Val Lys Thr		
20	25	30	
Arg Pro Asn Trp Trp Ile Arg Ile Phe Ser Phe Leu	Tyr Leu Lys Arg		
35	40	45	
Gly Lys Gly Ser Val Ile Tyr Arg Ser Val Arg Gln	Asp Leu Pro Pro		
50	55	60	
Phe Asn Leu Phe Ser Leu Gly Lys Tyr Ser Val Val	Glu Asp Phe Ser		
65	70	75	80
Cys Leu Asn Asn Ala Val Gly Asp Leu Ile Ile	Gly Glu Tyr Thr Arg		
85	90	95	
Ile Gly Leu Gly Asn Thr Ile Ile Gly Pro Ala Thr	Ile Gly Asn His		
100	105	110	
Val Asn Leu Ala Gln Asn Val Thr Val Thr Gly	Leu Asn His Asn Tyr		
115	120	125	
Gln Asp Thr Gly Lys Arg Ile Asp Glu Gln Gly Val	Ser Thr Gln Pro		

130	135	140
Ile Thr Ile Glu Asp Asp Val Trp Val Gly Ala Asn Ser Val Ile Leu		
145	150	155
Pro Gly Val Thr Leu Gly Lys His Cys Val Val Ala Ala Gly Ser Val		160
165	170	175
Val Ser Arg Ser Ile Pro Pro Tyr Ser Val Cys Ala Gly Ser Pro Ala		
180	185	190
Lys Val Val Lys Gln Phe Asn Pro Glu Ser Arg Thr Trp Glu Lys Thr		
195	200	205
Val Ser Lys Asn Gly Lys		
210		

&lt;210&gt; 7266

&lt;211&gt; 210

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7266

Gln Ser Pro Pro Pro Leu Pro Ile Tyr Ser Asp Ser Tyr Pro Ala Ile		
1	5	10
Ser Ile Ile Asn Gly Asp Phe Leu Phe Leu Pro Asp Arg Leu Ser Leu		15
20	25	30
Pro Tyr His Leu Lys Thr Arg Ser Glu Met Asn Lys Ile Gly Val Phe		
35	40	45
Tyr Gly Ser Thr Thr Gly Thr Thr Glu Asp Val Ala His Arg Ile Ala		
50	55	60
Glu Lys Leu Asn Val Pro Asn Gly Asp Ile His Asp Ala Ser Lys Leu		
65	70	75
Asn Asp Glu Leu Val Lys Glu Tyr Asp Val Leu Val Leu Gly Thr Ser		80
85	90	95
Thr Trp Gly Ala Gly Glu Leu Gln Asp Asp Trp Tyr Asp Gly Ile Lys		
100	105	110
Val Leu Lys Lys Ala Asp Leu Ser His Lys Phe Val Ala Leu Phe Gly		
115	120	125
Cys Gly Asp Ser Asp Ser Tyr Ser Asp Thr Phe Cys Asp Gly Ile Gly		
130	135	140
Ile Leu Tyr Glu Glu Leu Lys Asp Thr His Cys Thr Phe Cys Gly Ala		
145	150	155
Thr Asp Pro Ser Gly Tyr Thr Phe Asp Ser Ser Val Ala Val Ile Asn		160
165	170	175
Gly Lys Phe Val Gly Leu Pro Leu Asp Glu Val Asn Glu Asp Gly Lys		
180	185	190
Thr Asp Glu Arg Ile Ala Gln Trp Thr Glu Ala Leu Lys Lys Glu Cys		
195	200	205
Ile Asn		
210		

&lt;210&gt; 7267

&lt;211&gt; 486

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7267

Asn Ser Val Leu Leu Tyr Gly Glu Ser Lys Ile Lys Leu Lys Arg Asn		
1	5	10
Glu Ile Met Asn Ala Phe Asn Tyr Thr Thr His Ser Lys Gln Val Leu		15
20	25	30
Gly Asp Leu His Thr Pro Val Ser Ile Tyr Leu Lys Val Arg Asp Met		
35	40	45

Tyr Pro Gln Ser Ala Leu Met Glu Ser Ser Asp Tyr His Ala Gly Glu  
 50 55 60  
 Asn Ser Leu Ser Phe Ile Ala Leu Cys Pro Leu Ala Ser Ile Gly Ile  
 65 70 75 80  
 Asn Ser Gly Ile Val Thr Thr Tyr Pro Asp Asn Thr Arg Arg Glu  
 85 90 95  
 Glu Pro Leu Ser Gln Ser Phe Arg Val Glu Asn Ala Leu Asn Arg Phe  
 100 105 110  
 Ile Asn Arg Phe His Val Glu Gly Asp Asp Lys Lys Phe Cys Gly Leu  
 115 120 125  
 Tyr Gly Tyr Thr Phe Asn Ala Val Lys Tyr Phe Glu His Ile Pro  
 130 135 140  
 Val Lys Glu Ser His Asp Glu Gln Asn Asp Ala Pro Asp Leu Leu Tyr  
 145 150 155 160  
 Ile Leu Tyr Lys Tyr Ile Ile Val Phe Asn His Phe Lys Asn Glu Leu  
 165 170 175  
 Thr Leu Val Glu Met Leu Ala Glu Gly Glu Ser Asn Leu Ser Gln  
 180 185 190  
 Leu Glu Ser Ala Ile Glu Asn Arg Asn Tyr Ala Ser Tyr Asn Phe Ser  
 195 200 205  
 Val Thr Gly Pro Val Thr Ser Thr Ile Thr Asp Glu Glu His Lys Ala  
 210 215 220  
 Asn Val Arg Lys Gly Ile Ala His Cys Leu Arg Gly Asp Val Phe Gln  
 225 230 235 240  
 Ile Val Leu Ser Arg Arg Phe Ile Gln Pro Tyr Ala Gly Asp Asp Phe  
 245 250 255  
 Lys Val Tyr Arg Ala Leu Arg Ser Ile Asn Pro Ser Pro Tyr Leu Phe  
 260 265 270  
 Tyr Phe Asp Phe Gly Gly Tyr Arg Ile Phe Gly Ser Ser Pro Glu Thr  
 275 280 285  
 His Cys Lys Val Glu Ser Gly Gln Ala Tyr Ile Asp Pro Ile Ala Gly  
 290 295 300  
 Thr Thr Arg Arg Thr Gly Asp Thr Ile Lys Asp Lys Glu Leu Thr Glu  
 305 310 315 320  
 Ala Leu Leu Ala Asp Pro Lys Glu Asn Ala Glu His Val Met Leu Val  
 325 330 335  
 Asp Leu Ala Arg Asn Asp Leu Ser Arg Asn Cys His Asp Val Arg Val  
 340 345 350  
 Val Phe Tyr Lys Glu Pro Gln Tyr Tyr Ser His Val Ile His Leu Val  
 355 360 365  
 Ser Arg Val Ser Gly Ala Leu Asn Asn Gly Ala Asn Pro Leu Lys Thr  
 370 375 380  
 Phe Ile Asp Thr Phe Pro Ala Gly Thr Leu Ser Gly Ala Pro Lys Val  
 385 390 395 400  
 Arg Ala Met Gln Leu Ile Ser Glu Ile Glu Pro His Asn Arg Gly Ala  
 405 410 415  
 Tyr Gly Gly Cys Ile Gly Phe Ile Gly Leu Asn Gly Glu Leu Asn Gln  
 420 425 430  
 Ala Ile Thr Ile Arg Thr Phe Val Ser Arg Asn Asn Glu Leu Trp Phe  
 435 440 445  
 Gln Ala Gly Gly Gly Ile Val Ala Arg Ser Gln Asp Glu Tyr Glu Leu  
 450 455 460  
 Gln Glu Val Asn Asn Lys Leu Gly Ala Leu Lys Lys Ala Ile Asp Leu  
 465 470 475 480  
 Ala Val Lys Leu Lys Asn  
 485

&lt;210&gt; 7268

&lt;211&gt; 69

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7268

Asn	Tyr	Pro	Pro	His	Ile	Arg	Lys	Ala	Ile	Lys	Ala	Phe	Leu	Tyr	Tyr
1				5					10					15	
Leu	Lys	Ile	Pro	Lys	Asn	Thr	Ile	Phe	Phe	Leu	Pro	Lys	Lys	Leu	Ser
							20		25				30		
Ile	Thr	Tyr	Ser	Ser	Phe	Thr	Phe	Lys	Asn	Leu	Tyr	Leu	Ile	Glu	Asn
							35		40			45			
His	Leu	Lys	Leu	Phe	Asn	Thr	Leu	Asn	Leu	Tyr	Leu	Ile	Pro	Asn	Ile
					50			55			60				
Leu	Phe	Tyr	Leu	Lys											
					65										

&lt;210&gt; 7269

<211> 340  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7269

Glu	Arg	Ser	Thr	Ile	Val	Thr	Ile	Asn	Ile	Lys	Asn	Val	Glu	Arg	Met
1				5					10				15		
Glu	Asn	Val	Val	Pro	Pro	Phe	Lys	Val	Asp	Val	Ala	Gly	Thr	Phe	Leu
							20		25			30			
Leu	Pro	Ala	Ala	Leu	Arg	Glu	Ala	Arg	Glu	Gln	Tyr	Arg	Asn	Glu	Gln
					35			40			45				
Ile	Ser	Leu	Leu	Thr	Leu	Arg	Ala	Val	Glu	Asp	Ala	Glu	Ile	Arg	Asn
					50			55			60				
Leu	Val	Asp	Arg	Leu	Lys	Ala	Glu	Gly	Leu	Lys	Val	Val	Thr	Asp	Gly
					65			70		75			80		
Arg	Phe	Arg	Ser	Asp	Ala	Trp	Pro	Leu	Asp	Phe	Met	Cys	Gly	Leu	Asp
						85			90			95			
Gly	Ile	Arg	Phe	Arg	Asp	Asp	Arg	Lys	Thr	Ser	Val	Glu	Leu	Thr	Gly
						100			105			110			
Arg	Ile	Asp	Val	His	His	His	Pro	Val	Leu	Asp	Asp	Phe	Val	Phe	Leu
					115			120			125				
Thr	Gly	Val	Thr	Gly	Gly	Asp	Val	Ile	Ala	Lys	Gln	Val	Leu	Pro	Ala
					130			135			140				
Pro	Ser	Arg	Leu	Leu	Ala	Glu	Leu	Met	Lys	Asp	Ala	Asn	Arg	Thr	Glu
					145			150			155			160	
Leu	Asp	Ser	Val	Tyr	Pro	Asp	Arg	Glu	Ile	Leu	Leu	Val	Asp	Leu	Ala
					165			170			175				
Gln	Thr	Tyr	Gln	Lys	Leu	Ile	Met	Glu	Leu	Tyr	Arg	Ser	Gly	Cys	Arg
					180			185			190				
Tyr	Leu	Gln	Leu	Asp	Asp	Ala	Thr	Arg	Thr	Val	Thr	Asp	Asn	Ala	Ile
					195			200			205				
Arg	Val	Asn	Asn	Met	Ala	Leu	Glu	Asn	Leu	Pro	Ala	Asp	Leu	Phe	Ile
					210			215			220				
Ala	Phe	His	Ser	Pro	Thr	Glu	Met	Leu	Phe	Ser	Leu	Gln	Gly	Ile	His
					225			230			235			240	
Ala	Phe	Phe	Leu	Asp	Tyr	Asp	Ser	Glu	Cys	Cys	Gly	Lys	Asn	Arg	Leu
					245			250			255				
Leu	Trp	Phe	Ile	Arg	Glu	Lys	Gln	Ser	Val	Phe	Gly	Phe	Val	Leu	Ser
					260			265			270				
His	Tyr	Pro	Val	Glu	Glu	Leu	Glu	Glu	Leu	Arg	Ala	Lys	Ile	Asp	
					275			280			285				
Gln	Ile	Ile	Arg	Tyr	Ile	Pro	Ser	His	Arg	Phe	Ser	Leu	Cys	Ile	Pro
					290			295			300				

Asn Ala Glu Val Leu Pro Ser Glu Ser Tyr Glu Ala Ala Glu Glu Lys  
 305 310 315 320  
 Gln Trp His Thr Leu Lys Met Ala Glu Met Val Ala Gly Glu Leu Trp  
 325 330 335  
 Pro Glu Glu Gly  
 340

<210> 7270

<211> 449

<212> PRT

<213> B.fragilis

<400> 7270

Ser Lys Gly Thr Pro Leu Arg Leu Ile His Ser Asp Thr Val Glu His  
 1 5 10 15  
 Gly Gly Glu Phe Val Ala Val Leu Gly Ile Val Asp Ala Leu Gly Gly  
 20 25 30  
 Cys Ser Glu Asn Val Asp Val Leu Gly Ile Glu Thr Gln Gly Glu Ile  
 35 40 45  
 Val Arg Tyr Leu Ser Ala Gly Gly Asn Asn Asp Ser Val Arg Ile Leu  
 50 55 60  
 Gln Phe Lys Asp Ile His His Ala Phe Glu Cys Gln Phe Val Lys Val  
 65 70 75 80  
 Lys Pro Val Thr His Ile Ile Val Gly Arg Tyr Gly Phe Gly Ile Ile  
 85 90 95  
 Val Asp His His Arg Thr Pro Ser Phe Leu Thr Asp Arg Ile Lys Arg  
 100 105 110  
 Leu His Pro Ala Pro Val Glu Leu His Gly Arg Thr Asp Pro Val Gly  
 115 120 125  
 Thr Arg Thr Glu Asn Asp Asp Arg Thr Met Val Thr Gln Val Ser Asp  
 130 135 140  
 Val Val Gly Cys Ala Ala Ile Gly Gln Val Lys Ile Ile Gly Leu Cys  
 145 150 155 160  
 Arg Ile Phe Gly Ser Gln Arg Ile Asp Leu Leu His His Gly Asn Asn  
 165 170 175  
 Ala Gln Ala Leu Thr Val Ile Ala Asp Ile Lys Ala Ala Val Phe His  
 180 185 190  
 Ile Ala Phe Val Ala Asp Gly Thr Cys Asn Leu Glu Ile Gly Glu Ser  
 195 200 205  
 Leu Thr Leu Gly Leu Leu Glu Gln Val Gly Arg Gln Val Gly Tyr Leu  
 210 215 220  
 Leu Val Ile Val Pro Pro Leu Met Glu Phe Leu Arg Ser Ile His Asp  
 225 230 235 240  
 Ile His Gln Phe Leu Glu Glu Pro Leu Val Asp Leu Ser Gln Phe Val  
 245 250 255  
 His Leu Ile Asp Gly Ile Ser Gly Thr Glu Ser Leu Arg Asp Asp Lys  
 260 265 270  
 Asp Thr Phe Ile Gly Arg Phe Val Gln Cys Phe Val Asp Val Gly Asp  
 275 280 285  
 Asn Glu Phe Leu Val Phe His Lys Thr Met His Pro Leu Ser Asp His  
 290 295 300  
 Ser Gln Ala Leu Leu Asn Arg Phe Leu Lys Ser Ala Ala Asn Gly His  
 305 310 315 320  
 Tyr Leu Thr Asp Gly Leu His Arg Arg Ala Glu Phe Leu Val His Thr  
 325 330 335  
 Val Glu Leu Thr Glu Val Pro Thr Arg Asn Phe Ala Asp Tyr Ile Ile  
 340 345 350  
 Glu Cys Arg Leu Lys Glu Gly Thr Gly Gly Phe Arg His Arg Val Leu  
 355 360 365

Gln Val Glu Gln Pro Val Ala Lys Ser Glu Phe Cys Ser His Lys Gly  
 370 375 380  
 Lys Arg Ile Thr Gly Ser Leu Gly Ser Gln Gly Arg Arg Thr Ala Gln  
 385 390 395 400  
 Ala Gly Ile His Leu Asp His Ala Ile Val Phe Thr Phe Gly Val Glu  
 405 410 415  
 Ser Ile Leu His Val Thr Phe Ser His Asn Ala Asp Val Ala Asp Asp  
 420 425 430  
 Ala Asp Gly Glu Leu Ala Gln Phe Met Ile Leu Leu Ile Gly Gln Gly  
 435 440 445  
 Leu

&lt;210&gt; 7271

&lt;211&gt; 813

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7271

Ala Lys Gln Thr Gly Met Lys Thr Ser Ile Asn Lys Leu Cys Ile Ala  
 1 5 10 15  
 Ala Ser Ile Leu Val Thr Ala Ala Gly Ile Ser Ala Cys Val Asp Asp  
 20 25 30  
 Asn Lys Thr Leu Tyr Asp Pro Glu Tyr Lys Thr Pro Asn Pro Met Glu  
 35 40 45  
 Glu Ile Ser Ala Pro Thr Gly Phe Asp Trp Ser Ser Thr His Ala Ile  
 50 55 60  
 Lys Phe Asn Val Glu Val Asn Asp Glu Phe Asp Gly Gln Tyr Tyr Tyr  
 65 70 75 80  
 Thr Val Glu Ile Val Asp Lys Asn Pro Leu Glu Ala Thr Thr Glu Glu  
 85 90 95  
 Pro Tyr Asn Thr Leu Ala Lys Gly Val Ala Arg Lys Gly Glu Thr Tyr  
 100 105 110  
 Gln Thr Glu Val Val Ser Ser Lys Asp Thr Lys Tyr Leu Tyr Val Arg  
 115 120 125  
 Gln Thr Asp Pro Arg Gly Arg Asp Arg Ile Lys Gln Val Glu Ile Asp  
 130 135 140  
 Glu Ser Thr Ser His Ile Gln Cys Ser Phe Thr Gly Thr Ser Ala Ile  
 145 150 155 160  
 Lys Thr Arg Ala Phe Ala Thr Thr Lys Gly Asn Asn Gly Ile Asp  
 165 170 175  
 Ile Pro Lys Arg Thr Glu Gln Asn Tyr Asp Ile Ser Arg Ala Ile Pro  
 180 185 190  
 Val Thr Ser Pro Ser Gln Val Leu Gln Gly Gly Gln Thr Tyr Ile Val  
 195 200 205  
 Thr Gly Asn Phe Ser Gly Lys Phe Thr Asp Ile Ser Leu Ser Asn Ser  
 210 215 220  
 Asn Lys Ala Thr Val Tyr Ile Gln Gly Thr Trp Glu Leu Ala Gln Val  
 225 230 235 240  
 Thr Gln Asp Phe Leu Asp Ile Ile Val Leu Lys Asp Gly Lys Ile Asn  
 245 250 255  
 Gly Lys Tyr Leu Met Leu Gln Asn Thr Ser Thr Leu Thr Ile Gln Ser  
 260 265 270  
 Gly Ala Glu Val Ser Leu Ser Asp Gln Leu Ile Cys Asn Thr Tyr Ser  
 275 280 285  
 Thr Ile Cys Asn Phe Gly Asp Leu Lys Thr Lys Asn Met Lys Leu Asn  
 290 295 300  
 Thr Asn Asp Ile Leu Tyr Asn Gly His Lys Thr Asp Ile Thr Asn Ser  
 305 310 315 320

Leu Asp Ala Ser Gln Gly Gly Asn Ile His Asn Phe Gly Lys Leu Asp  
 325 330 335  
 Val Glu Asn Thr Ile Lys Leu Asn Thr Pro Ser Ile Val Tyr Asn Ala  
 340 345 350  
 Pro Glu Cys Lys Ile Glu Ala Lys Thr Tyr Glu Ala Ala Gly Ser Thr  
 355 360 365  
 Asn Val Asn Phe Gly Glu Met Glu Phe Asp Thr Tyr Asp Ser Gly Lys  
 370 375 380  
 Ala Gly Gly Ser Leu Tyr Asn Asn Cys Met Leu Phe Val Glu His Met  
 385 390 395 400  
 Lys Ala Gly Gly Ile Val Tyr Leu Asp His Gly Val Ile Ala Glu Glu  
 405 410 415  
 Lys Glu Asp Asp Glu Glu Asn Glu Leu Phe Glu Glu Ala Asp Asp Ile  
 420 425 430  
 Glu Phe Tyr Asp Asn Ala Lys Val Thr Leu Ala Asn Gly Ser Met Ile  
 435 440 445  
 Lys Ala Lys Asn Ile Ile Ala Lys Ser Gly Leu Ser Val Asn Gly Glu  
 450 455 460  
 Gly Asn Glu Thr Ser Leu Leu Lys Ala Thr Glu Lys Val Gln Ile Gln  
 465 470 475 480  
 Asn Trp Asp Val Arg Phe Asn Gly Arg Leu Cys Ile Thr Gly Lys Ile  
 485 490 495  
 Ser Cys Ser Asn Pro Asp Met Tyr Gln Ala Gly Ser Glu Val Thr Phe  
 500 505 510  
 Ser Glu Ser Pro Asp Val Ile Ile Thr Gly Cys Asn Gly Lys Ala Glu  
 515 520 525  
 Val Pro Asp Pro Ala Pro Glu Pro Ser Asp Pro Val Phe Pro Ile Ile  
 530 535 540  
 Val Asp Asp Asn His Asn Tyr Thr Tyr Leu Phe Glu Asp Gln Trp Pro  
 545 550 555 560  
 Leu Tyr Gly Asp Tyr Asp Met Asn Asp Ile Val Leu Glu Val Lys Lys  
 565 570 575  
 Arg Lys Ile Ser Ile Asp Lys His Asn Lys Val Thr Glu Phe Asp Leu  
 580 585 590  
 Ser Val Glu Leu Arg Ala Val Gly Ala Gln Lys Thr Ile Ala Ala Ala  
 595 600 605  
 Ile Met Phe Asp Glu Ile Pro Ala Ser Ala Val Thr Gln Ala Val Thr  
 610 615 620  
 Tyr Ala Asp Asn Tyr Gln Pro Val Ser Phe Glu Leu Thr Asp Lys Asn  
 625 630 635 640  
 Ile Glu Lys Gly Gln Glu Tyr Ala Val Val Pro Leu Phe Asp Asn Ala  
 645 650 655  
 His Ala Leu Met Glu Arg Pro Thr Gly Ser Phe Val Asn Thr Ile Ser  
 660 665 670  
 Gly Ser Asp Asn Asn Gln Lys Asn Thr Gln Thr Ile His Phe Thr Leu  
 675 680 685  
 Arg Phe Asp Ser Ser Val Ala Pro Ser Ser Asp Ala Leu Asn Ile Asn  
 690 695 700  
 Asn Leu Asn Ile Phe Ile Ile Thr Asp Arg Gly Ser Lys Arg Lys Glu  
 705 710 715 720  
 Ile His Val Ala Gly Tyr Arg Pro Thr Leu Leu Ala Asn Thr Glu Leu  
 725 730 735  
 Phe Gly Gly Asn Asn Asp Ala Ser Ser Leu Asn Gly Lys Lys Tyr Tyr  
 740 745 750  
 Ile Ser Lys Asp Asn Leu Ala Trp Gly Ile Met Val Pro Thr Gln Phe  
 755 760 765  
 Lys Trp Pro Leu Glu Tyr Thr Gln Ile Gln Lys Ala Tyr Ser Gln Phe  
 770 775 780  
 Ala Gly Trp Val Thr Thr Gly Gly Ala Asp Asn Lys Lys Trp Trp Asn

785	790	795	800
Asp Phe Asp Asn Thr	Lys Val Phe Gln Thr	Asn Lys Asn	
805	810		

<210> 7272  
<211> 101  
<212> PRT  
<213> B.*fragilis*

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<400> 7272
Gly Lys Arg Thr Asp Ser Gly Asn Asn Gln Leu Leu His Asp Gln Cys
1          5           10           15
Pro Asp His Glu Arg Gly Pro Gly Ile Tyr Arg Pro Glu Ser Val Arg
20         25           30
Arg Gly Glu Arg Thr Leu Phe Met Gly Lys Lys Leu Gln Asn Gly Thr
35         40           45
Ser Ser Trp Arg Phe Phe Asp Gln Met Leu Tyr Glu Asp Asn Val Val
50         55           60
Arg Thr Pro Gly Val Gly Phe Gly Pro Ser Gly Glu Gly Tyr Ile Arg
65         70           75           80
Leu Thr Ala Phe Gly Glu Arg Asp Asp Cys Ile Glu Ala Met Arg Arg
85         90           95
Ile Lys Asn Arg Leu
100

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<210> 7273  
<211> 446  
<212> PRT  
<213> B.*fragilis*

<400> 7273  
 Asn Ile Ile Ala Asn Asn Trp Asn Leu Leu Ala Cys Ser Tyr Phe Leu  
 1 5 10 15  
 Ser Leu Ser Lys Arg Arg Ile Asn Arg Asn Arg Asn Met Lys Arg Val  
 20 25 30  
 Ile Phe Ser Leu Ser Phe Ser Leu Phe Ala Leu Leu Met Tyr Gly Gln  
 35 40 45  
 Ile Thr Leu Glu Glu Cys Gln Arg Lys Thr Arg Glu Asn Tyr Pro Leu  
 50 55 60  
 Val Arg Gln Tyr Gly Leu Ile Glu Lys Thr Lys Glu Tyr Asn Leu Ala  
 65 70 75 80  
 Asn Ala Ser Lys Gly Tyr Leu Pro Gln Phe Thr Leu Ser Gly Lys Ala  
 85 90 95  
 Ser Trp Gln Ser Glu Val Thr Glu Leu Pro Val Gln Val Pro Gly Val  
 100 105 110  
 Asp Ile Lys Gly Leu Pro Lys Asp Gln Tyr Gln Val Met Leu Glu Leu  
 115 120 125  
 Lys Gln Asn Ile Trp Asp Gly Gly Glu Ile Arg Ser Arg Lys Glu Gln  
 130 135 140  
 Val Lys Ala Ser Ser Asp Val Asp Arg Glu Lys Leu Asn Val Asp Met  
 145 150 155 160  
 Tyr Ala Leu Thr Glu Arg Val Asn Gln Val Tyr Phe Gly Ile Leu Leu  
 165 170 175  
 Leu Asp Glu Gln Leu Arg Gln Asn Gln Leu Phe Leu Glu Asp Leu Glu  
 180 185 190  
 Arg Thr His Lys Gln Ile Ser Ser Tyr Ile Glu Asn Gly Ile Ala Ser  
 195 200 205  
 Gln Ser Asp Leu Asp Ala Val Ser Val Glu Gln Leu Asn Thr Arg Gln  
 210 215 220

Lys Arg Ile Glu Leu Thr Ser Ser Arg Gln Ala Tyr Leu Ser Met Leu  
 225 230 235 240  
 Ala Leu Leu Thr Gly Glu Glu Met Pro Ala Gly Ile Ser Leu Gln Lys  
 245 250 255  
 Pro Val Pro Glu Trp Asp Ile Pro Val Ile Ala Asn Asn Arg Pro Glu  
 260 265 270  
 Leu Ile Trp Phe Asp Ala Gln Asn Gly Arg Leu Gln Val Gln Glu Glu  
 275 280 285  
 Ala Leu Lys Thr Gln Leu Met Pro Arg Phe Gly Leu Phe Val Gln Gly  
 290 295 300  
 Ala Tyr Gly Asn Pro Gly Leu Asn Met Leu Lys Asn Glu Phe Ser Pro  
 305 310 315 320  
 Tyr Tyr Val Ala Gly Val Arg Leu Ser Trp Asn Phe Gly Ser Leu Tyr  
 325 330 335  
 Thr Leu Arg Asn Asp Arg Arg Val Ile Ala Ala Asn Arg Gln Leu Leu  
 340 345 350  
 Asp Ser Asn Arg Asp Val Phe Leu Phe Asn Thr Arg Leu Gln Ala Thr  
 355 360 365  
 Gln Gln Gly Ser Ala Val Glu Ser Val Arg Arg Gln Met Ala Asp Asp  
 370 375 380  
 Asp Glu Ile Ile Arg Leu Arg Thr Ser Ile Arg Lys Ala Ser Glu Ala  
 385 390 395 400  
 Lys Val Ala Asn Gly Thr Met Thr Val Thr Asp Met Leu Arg Asp Met  
 405 410 415  
 Thr Ser Glu Asn Leu Ala Arg Gln Thr Lys Ala Leu His Glu Val Gln  
 420 425 430  
 Leu Leu Met Asn Met Tyr Gln Leu Lys Tyr Thr Thr Asn Asn  
 435 440 445

&lt;210&gt; 7274

&lt;211&gt; 431

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7274

Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe  
 1 5 10 15  
 Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro  
 20 25 30  
 Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr  
 35 40 45  
 Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly  
 50 55 60  
 Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser  
 65 70 75 80  
 Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala  
 85 90 95  
 Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly  
 100 105 110  
 Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile  
 115 120 125  
 Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp  
 130 135 140  
 Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys  
 145 150 155 160  
 Pro Thr Tyr Lys Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile  
 165 170 175  
 Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val  
 180 185 190

Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu  
 195 200 205  
 Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys  
 210 215 220  
 Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr  
 225 230 235 240  
 Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu  
 245 250 255  
 Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Leu Asn  
 260 265 270  
 Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys Tyr Arg Leu Val Ile  
 275 280 285  
 Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp Leu Trp Glu Gly Glu  
 290 295 300  
 Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr Lys Ser Ser Thr Arg  
 305 310 315 320  
 Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe  
 325 330 335  
 Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe  
 340 345 350  
 Met Ala Glu Asn Thr Val Phe Leu Leu Leu Thr Ala Leu Ile His Asn  
 355 360 365  
 Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu  
 370 375 380  
 Lys Lys Thr Ser Arg Ile Lys Ala Phe Val Phe Arg Phe Ile Ser Val  
 385 390 395 400  
 Pro Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr  
 405 410 415  
 Thr Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys Thr Glu Phe Gly  
 420 425 430

&lt;210&gt; 7275

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7275

Thr Lys His Leu Leu Thr Thr Ser Ser Arg Cys Thr Asn Phe Lys Arg  
 1 5 10 15  
 Lys Val Asn Leu Asn Lys Glu Lys Ile Arg Met Lys Asn Val Thr Leu  
 20 25 30  
 Ile Leu Asp Asp Gly Ser Arg Phe His Gly Lys Ser Phe Gly Tyr Glu  
 35 40 45  
 Lys Pro Val Ala Gly Glu Val Val Phe Asn Thr Ala Met Thr Gly Tyr  
 50 55 60  
 Pro Glu Ser Leu Thr Asp Pro Ser Tyr Ala Gly Gln Leu Met Thr Leu  
 65 70 75 80  
 Thr Tyr Pro Leu Val Gly Asn Tyr Gly Val Pro Pro Phe Ser Ile Glu  
 85 90 95  
 Pro Asn Gly Leu Ala Thr Phe Met Glu Ser Glu Arg Ile His Ala Glu  
 100 105 110  
 Ala Ile Ile Val Ser Asp Tyr Ser Gln Glu Tyr Ser His Trp Asn Ala  
 115 120 125  
 Val Glu Ser Leu Ala Asp Trp Leu Lys Arg Glu Gln Val Pro Gly Ile  
 130 135 140  
 Thr Gly Ile Asp Thr Arg Glu Leu Thr Lys Val Leu Arg Glu His Gly  
 145 150 155 160  
 Val Met Met Gly Arg Ile Val Phe Asp Asp Glu Pro Glu Ser Ala Pro  
 165 170 175

Glu Ala Val Tyr Ser Gly Val Asn Tyr Val Asp Lys Val Ser Cys Lys  
     180                  185                  190  
 Glu Val Ile Arg Tyr Asn Glu Gly Ala Asp Lys Lys Lys Val Val Leu  
     195                  200                  205  
 Val Asp Cys Gly Val Lys Thr Asn Ile Ile Arg Cys Leu Leu Arg Arg  
     210                  215                  220  
 Asp Val Glu Val Ile Arg Val Pro Trp Asn Tyr Asp Phe Asn His Leu  
     225                  230                  235                  240  
 Lys Phe Asp Gly Leu Phe Ile Ser Asn Gly Pro Gly Asp Pro Asp Thr  
     245                  250                  255  
 Cys Asp Ala Ala Val Gln Asn Ile Arg Lys Ala Met Gln Asn Pro Lys  
     260                  265                  270  
 Leu Pro Ile Phe Gly Ile Cys Met Gly Asn Gln Leu Leu Ser Lys Ala  
     275                  280                  285  
 Gly Gly Ala Lys Ile Tyr Lys Leu Lys Tyr Gly His Arg Ser His Asn  
     290                  295                  300  
 Gln Pro Val Arg Met Val Gly Thr Glu Arg Cys Phe Ile Thr Ser Gln  
     305                  310                  315                  320  
 Asn His Gly Tyr Ala Val Asp Asn Asn Thr Leu Gly Thr Asp Trp Glu  
     325                  330                  335  
 Pro Leu Phe Ile Asn Met Asn Asp Gly Ser Asn Glu Gly Ile Arg His  
     340                  345                  350  
 Lys Thr Asn Pro Trp Phe Ser Ala Gln Phe His Pro Glu Ala Ala Ser  
     355                  360                  365  
 Gly Pro Thr Asp Thr Glu Phe Leu Phe Asp Glu Phe Val Lys Leu Leu  
     370                  375                  380

&lt;210&gt; 7276

&lt;211&gt; 231

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7276

Ser Leu Val Tyr Arg Met Phe Thr Arg Lys Tyr Leu Leu Cys Glu Thr  
     1                  5                  10                  15  
 Leu Cys His Ser Val Val Asn Pro Pro Asn Asn Phe Lys Thr Met Asn  
     20                  25                  30  
 Asn Glu Ile Asn Thr Leu Asn Arg Gln Lys Gly Ala Ile Leu Leu Leu  
     35                  40                  45  
 Asp Asn Tyr Asp Ser Phe Thr Tyr Asn Leu Leu His Val Val Lys Glu  
     50                  55                  60  
 Gln Gly Val Thr Asp Ile Glu Val Phe Arg Asn Asp Glu Ile Thr Leu  
     65                  70                  75                  80  
 Asp Glu Val Glu Arg Phe Asp Lys Ile Ile Leu Ser Pro Gly Pro Gly  
     85                  90                  95  
 Ile Pro Glu Glu Ala Gly Leu Leu Pro Ile Ile Arg Lys Tyr Ala  
     100                  105                  110  
 Ala Thr Lys Ser Ile Leu Gly Val Cys Leu Gly His Gln Ala Ile Gly  
     115                  120                  125  
 Glu Ala Phe Gly Ala Thr Leu Glu Asn Leu Thr Glu Val Tyr His Gly  
     130                  135                  140  
 Val Gln Thr Pro Val Ser Ile Leu Lys Glu Asp Ile Leu Phe Arg Gly  
     145                  150                  155                  160  
 Leu Gly Arg Glu Ile Pro Val Gly Arg Tyr His Ser Trp Val Val Ser  
     165                  170                  175  
 Arg Lys Asp Phe Pro Gly Cys Leu Glu Ile Thr Ala Glu Ser Arg Glu  
     180                  185                  190  
 Gly Gln Ile Met Ala Leu Arg His Arg Thr Tyr Asp Val His Gly Ile  
     195                  200                  205

Gln Phe His Pro Glu Ser Val Leu Thr Pro Gln Gly Lys Glu Ile Ile  
 210 215 220  
 Lys Asn Phe Leu Asn Asn Arg  
 225 230

<210> 7277  
 <211> 97  
 <212> PRT  
 <213> B.fragilis

<400> 7277  
 Cys Trp Phe Leu Phe Leu Asn Lys Leu Tyr Leu Arg Asn Asn Ile Asn  
 1 5 10 15  
 Asn Lys Met Phe Lys Lys Ser Phe Leu Phe Lys Arg Ser Ile Ile Leu  
 20 25 30  
 Pro Tyr Ile Ser Cys Thr Tyr Asn Val His Leu Leu Gly Pro Lys Val  
 35 40 45  
 Gln Gly Pro Phe Tyr Ala Pro Ile Glu Ser Glu Lys Lys Asp Lys Lys  
 50 55 60  
 Thr Ala Ile Thr Ser Asn Asn Gln Ile Val Thr Asn Asn Asn Gln Gln  
 65 70 75 80  
 Lys Gln Trp Thr Lys Lys Ser Arg Lys Val Asn Ser Lys Lys Asn Thr  
 85 90 95  
 Ile

<210> 7278  
 <211> 498  
 <212> PRT  
 <213> B.fragilis

<400> 7278  
 Val Ser Ile Tyr Pro Leu Lys Gly Phe Phe Gly Pro Pro Lys Lys  
 1 5 10 15  
 Tyr Val Trp Gly His Ala Tyr Asn Asn Ser Lys Pro Ser Leu Pro Ile  
 20 25 30  
 Phe Gln Ile Asn Tyr Leu His Leu Arg Ser Cys Lys Lys Thr Trp His  
 35 40 45  
 Leu Gln Thr Glu Arg Thr Gln His Lys Lys Thr Ser Thr Met Lys Lys  
 50 55 60  
 Ile Leu Phe Leu Leu Thr Ile Leu Val Ser Val Pro Ala Phe Ser Gln  
 65 70 75 80  
 Ser Ala Asp Glu Arg Ile Gly Ala Phe Leu Asn Gln Ala Asp Trp Phe  
 85 90 95  
 Gly Leu Glu Lys Asn Tyr Pro Ile Leu Lys Asp Ser Met Gln Ala Asp  
 100 105 110  
 Phe Leu Lys Leu Met Ser Glu Ala Leu Ile Gly Tyr Tyr Phe Asn Arg  
 115 120 125  
 Pro Asp Glu Ala Leu Gln Ser Ile His Lys Leu Leu Val Asn His Gln  
 130 135 140  
 Ala Glu Ile Gly Gly Gln Asn Ala Leu Asn Met Ala Ile Leu Ala Cys  
 145 150 155 160  
 Gln Ile Asp Gly Leu Lys Gly Asn Tyr Ala Thr Ala Ala Gln Asn Ser  
 165 170 175  
 Arg Ser Ile Met Glu Gln Leu Lys Gln Gln Asn Ala Glu Gln Gly Met  
 180 185 190  
 Tyr Lys Ser Leu Glu Gly Ile Cys Tyr Phe Tyr Asp Gln Leu Lys Asn  
 195 200 205  
 Ile Pro Ala Leu Gly Ile Thr Cys Pro Gln Glu Asp Ile Ile Ile Pro

210	215	220
Val Asp Ile Glu Lys Val	Lys Leu Pro Thr Ser	Ile Glu Pro Lys Gly
225	230	235
Trp Arg Gly Thr Thr	Ile Leu Ile Pro Val	Thr Ile Asn Gly Lys Thr
245	250	255
Tyr Gln Phe Ile Phe Asp	Thr Gly Ala Gly	Thr Ser Tyr Met Ser Gln
260	265	270
Arg Met Ala Lys Glu Thr	Gly Val Arg Ile Leu Ser	Asp Ser Leu Val
275	280	285
Ile Asn Ser Asn Leu Pro	Gly Ala Met Thr Gly Asn	Phe Gly Thr Leu
290	295	300
Glu Asn Met Gln Ile Gly	Ser Ile Thr Phe His	Asn Ser Leu Ile Thr
305	310	315
Ile Ala Pro Pro Asn Ala	Phe Asp Ser Ile Met Ile	Val Asp Ala Val
325	330	335
Leu Gly Met Asp Phe Ile	Gly Leu Phe Asp Glu Val	Arg Ile Tyr Pro
340	345	350
Lys Asp Lys Lys Ile Val	Phe Pro Lys Ser Ser	Thr Pro Leu Pro Ser
355	360	365
Tyr Gly Arg Asn Leu Met	Lys Val Asp Arg Ala	Leu Lys Leu Lys Ala
370	375	380
Gln Ala Asn Gly Glu Thr	Leu Met Leu His Phe	Asp Thr Gly Asn Ser
385	390	395
Thr Ala Gly Leu Phe Tyr	Gln Tyr Tyr Glu Lys	His Lys Thr Glu Phe
405	410	415
Glu Ser Ile Gly Lys Lys	Glu Ile Thr Gly Gly	Phe Asn His
420	425	430
Val Val Thr Lys Asp Ile	Leu Arg Leu Pro Ser	Phe Asp Met Glu Ile
435	440	445
Gly Asp Ala Thr Ala His	Leu Lys Asn Leu Ala	Val Asp Ile Thr Pro
450	455	460
Asn Gly Ile Pro Ala Glu	Asp Asp Gly Asn Ile	Gly Met Asp Met Ile
465	470	475
Asn Gln Phe Asp Cys Val	Thr Ile Asn Leu Lys	Asp Met Phe Leu Lys
485	490	495
Leu Glu		

<210> 7279  
<211> 362  
<212> PRT  
<213> B.fragilis

<400> 7279			
Asn Cys Tyr Leu Cys Arg Glu Asn Ser	Lys Asn Asp Thr Asp Met Lys		
1	5	10	15
Ala Asp Tyr Pro Ser Val Leu Leu	Ile Tyr Thr Gly Gly	Thr Ile Gly	
20	25	30	
Met Ile Glu Asn Pro Glu Thr	Gly Ala Leu Glu Asn Phe	Asn Phe Asp	
35	40	45	
His Leu Leu Lys His Val Pro	Glu Leu Lys Arg Phe	Asn Tyr Arg Ile	
50	55	60	
Ser Ser Tyr Gln Phe Asp Pro	Pro Ile Asp Ser Ser Asp	Asp Met Glu Pro	
65	70	75	80
Ala Phe Trp Ala Lys Leu Val	Glu Ile Ile Asn Tyr Asn	Tyr Asp Ser	
85	90	95	
Phe Asp Gly Phe Val Ile Leu His	Gly Thr Asp Thr Met Ala	Tyr Thr	
100	105	110	
Ala Ser Ala Leu Ser Phe Met	Leu Glu Asn Leu Ser	Lys Pro Val Ile	

115	120	125
Leu Thr Gly Ser Gln Leu Pro Ile Gly Thr Leu Arg Thr Asp Gly Lys		
130	135	140
Glu Asn Leu Ile Thr Ala Ile Glu Ile Ala Ala Ala Lys Asn Pro Asp		
145	150	155
Gly Thr Ala Ile Val Pro Glu Val Cys Ile Phe Phe Glu Asn His Leu		
165	170	175
Met Arg Gly Asn Arg Thr Thr Lys Ile Asn Ala Glu Asn Phe Asn Ala		
180	185	190
Phe Arg Ser Phe Asn Tyr Pro Pro Leu Ala Arg Val Gly Ile His Ile		
195	200	205
Lys Tyr Glu Pro Asn Leu Ile Arg Lys Pro Asp Leu Ser Lys Pro Leu		
210	215	220
Lys Pro His Tyr Leu Phe Asp Thr Asn Val Val Ile Leu Thr Leu Phe		
225	230	235
Pro Gly Ile Gln Glu Gly Ile Val Ser Ala Leu Leu His Val Pro Gly		
245	250	255
Leu Lys Ala Val Val Leu Lys Thr Phe Gly Ser Gly Asn Ala Pro Gln		
260	265	270
Lys Glu Trp Phe Ile Arg Glu Leu Lys Asp Ala Thr Asp Arg Gly Ile		
275	280	285
Ile Ile Val Asn Ile Thr Gln Cys Ala Ser Gly Ala Val Glu Met Glu		
290	295	300
Arg Tyr Gly Thr Gly Ile Gln Leu Leu Gln Ala Gly Val Ile Ser Gly		
305	310	315
Tyr Asp Ser Thr Pro Glu Cys Ala Val Thr Lys Leu Met Phe Leu Leu		
325	330	335
Gly His Gly Leu Asp Asn Lys Glu Ile Arg Tyr Lys Met Asn Ser Cys		
340	345	350
Leu Ile Gly Glu Ile Thr Lys Arg Val Glu		
355	360	

<210> 7280  
<211> 386  
<212> PRT  
<213> B.*fragilis*

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<400> 7280
Met Leu His Leu Ile Tyr Ile Gly Arg His Ala Asp Thr Ile Glu Gln
1 5 10 15
Phe Ser Lys Ile Ala Glu Gly Ala Phe Tyr Ala Ile Gln Asn Ser Arg
20 25 30
Lys Ala Ser Glu Phe Ile Asp Lys Ile Arg Glu Lys Tyr Asp Ile Val
35 40 45
Ile Leu Phe Glu Gln Arg Ile Ile Ser Lys Asp Ile Pro Glu Ile Gln
50 55 60
Tyr Leu Arg Lys Lys Phe Pro Gly Val Tyr Ile Ala Leu Val Thr Glu
65 70 75 80
Gly Ile Asn Lys Glu Asp Arg Pro Ala Tyr Leu Lys Ala Gly Ile Asn
85 90 95
Asn Ser Ile Pro Phe Asn Ser Thr Pro Glu Thr Phe Lys Asp Ile Thr
100 105 110
Glu Phe Met Met Arg Arg Lys Gln Gln Lys Ile Asn Asp Ile His Lys
115 120 125
Lys Gly Ala Asn Leu Leu Phe Phe Lys Leu Pro Leu Trp Lys Arg Leu
130 135 140
Phe Asp Ile Val Phe Ser Ser Ile Ala Ile Leu Cys Leu Ser Pro Ile
145 150 155 160
Leu Ile Ile Thr Ala Val Ala Ile Arg Leu Glu Ser Lys Gly Ala Val

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	165	170	175												
Val	Tyr	Lys	Ser	Lys	Arg	Val	Gly	Ser	Asn	Tyr	Lys	Ile	Phe	Asp	Phe
				180				185				190			
Leu	Lys	Phe	Arg	Ser	Met	Tyr	Thr	Asp	Ala	Asp	Lys	His	Leu	Arg	Asp
				195			200				205				
Phe	Asn	Gln	Leu	Asn	Gln	Tyr	Gln	Thr	Glu	Glu	Glu	Pro	Glu	Leu	Ser
				210			215				220				
Gly	Glu	Glu	Phe	Leu	Ile	Gly	Asp	Asp	Ile	Glu	Leu	Asn	Glu	Glu	Glu
	225				230				235			240			
Thr	Met	Leu	Ile	Ser	Asp	Asp	Phe	Ile	Ile	Ser	Glu	Gln	Asn	Tyr	Thr
				245				250				255			
Ser	Lys	Lys	Ser	Ile	Glu	Lys	Lys	Asn	Ala	Phe	Val	Lys	Leu	Glu	Asn
				260			265				270				
Asp	Pro	Arg	Ile	Thr	Lys	Val	Gly	Arg	Ile	Ile	Arg	Lys	Tyr	Ser	Ile
				275			280				285				
Asp	Glu	Leu	Pro	Gln	Leu	Val	Asn	Ile	Leu	Lys	Gly	Asp	Met	Ser	Ile
				290			295				300				
Val	Gly	Asn	Arg	Pro	Leu	Pro	Leu	Tyr	Glu	Ala	Glu	Leu	Leu	Thr	Ser
	305				310				315			320			
Asp	Glu	Tyr	Ile	Asp	Arg	Phe	Met	Gly	Pro	Ala	Gly	Leu	Thr	Gly	Leu
				325				330				335			
Trp	Gln	Val	Glu	Lys	Arg	Gly	Ser	Ser	Gly	Lys	Leu	Ser	Ala	Asp	Glu
				340			345				350				
Arg	Lys	Gln	Leu	Asp	Ile	Lys	Tyr	Ala	Gln	Thr	Phe	Ser	Phe	Leu	Leu
				355			360				365				
Asp	Met	Glu	Ile	Ile	Leu	Arg	Thr	Phe	Thr	Ala	Phe	Ile	Gln	Lys	Glu
				370			375				380				
Asn	Val														
	385														

&lt;210&gt; 7281

&lt;211&gt; 140

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7281

Arg	Cys	Tyr	His	Tyr	Ile	Pro	Ile	Asn	Arg	Asp	Cys	Ser	Ile	Met	Glu
1				5				10				15			
Asn	Phe	Tyr	Leu	Cys	Pro	Lys	Leu	Asn	Gly	Met	Asn	Gln	Gly	Ser	Leu
				20				25				30			
Lys	Ile	Met	Arg	Gly	Phe	Arg	Pro	Val	Leu	Phe	Asn	Trp	Asp	Met	Pro
				35				40				45			
Gly	Ile	Thr	Leu	Phe	Thr	His	Ser	His	Val	Val	Asn	Gly	Val	Thr	Met
				50				55				60			
Val	His	Ser	His	Pro	Phe	Lys	Lys	Ala	Ser	Pro	His	Ser	His	Thr	Pro
	65				70				75			80			
Val	Glu	Phe	Gln	Leu	Ile	His	Leu	Leu	Asn	His	Val	Val	Thr	Thr	Glu
				85				90				95			
Ala	Gly	Ile	Phe	Leu	Ser	Leu	Gln	Phe	Ile	Ala	Cys	Leu	Leu	Tyr	
				100				105				110			
Thr	Leu	Ser	Trp	Arg	Pro	Asp	Arg	Ala	Gly	Tyr	Cys	Ser	Ser	Val	Val
				115				120				125			
Gly	Val	Val	Ser	Leu	Arg	Ala	Pro	Pro	Ala	Gly	Arg				
	130				135				140						

&lt;210&gt; 7282

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7282

Leu His Leu His Lys Leu Lys Ile Lys Met Lys Lys Leu Phe Ala Leu  
 1 5 10 15  
 Leu Phe Ile Ser Met Ile Ser Gly Met Ile Met Ala Gln Ile Pro Glu  
 20 25 30  
 Val Ser Gly Thr Ile Val Phe Lys Lys Asp Gly Gln Pro Val Val Gly  
 35 40 45  
 Ala Leu Val Ser Val Leu Gly Thr Asp Ile Ser Thr Ile Thr Asp Val  
 50 55 60  
 Asp Gly Arg Phe Thr Leu Lys Glu Ile Pro Glu Lys Ala Gln Arg Ile  
 65 70 75 80  
 Arg Val Lys Tyr Ile Gly Met Gln Pro Lys Asp Val Lys Ile Arg Pro  
 85 90 95  
 Ile Met Asn Val Thr Leu Asp Leu Glu Lys Lys Leu Ala Phe Phe Ile  
 100 105 110  
 Gln Ala Gly Val Gly Val Ser Gly Tyr Asn Leu Glu Asn Asn Asn Glu  
 115 120 125  
 Asp Ile Tyr Gly Gly Asn Asn His Leu Tyr Ile Gln Gly Gly Val Gly  
 130 135 140  
 Leu Asn Tyr Asn Phe Ser Thr Tyr Phe Ser Leu Gln Pro Ser Val Asn  
 145 150 155 160  
 Val Val Ala Lys Gly Cys Lys Asn Met Gly Arg Arg Gly Ser Asp Gly  
 165 170 175  
 Gln Gly Glu Ile Thr Val Asp Pro Val Tyr Leu Glu Ile Pro Val Leu  
 180 185 190  
 Ile Ala Ala Arg Phe Ile Ile Ser Asp Phe Gly Arg Leu Ile Phe Asn  
 195 200 205  
 Ala Gly Pro Tyr Ala Ala Ile Gly Ile Ala Gly Lys Gly Lys Tyr Thr  
 210 215 220  
 Asp Glu Trp Glu Gly Thr Ser Met Lys Phe Asp Leu Phe Ser Gly Asp  
 225 230 235 240  
 Glu Ala Val Leu Lys Arg Phe Asp Ala Gly Val Gln Ala Gly Phe Ala  
 245 250 255  
 Tyr Glu Ile Lys His Ile Gly Phe Ser Tyr Thr Phe Gly Tyr Gly Leu  
 260 265 270  
 Leu Lys Pro Phe Lys Glu Trp Asn Lys Glu Trp Gly Ala Thr Pro His  
 275 280 285  
 Asn Ile Ser His Asn Phe Gly Leu Lys Tyr Ile Phe  
 290 295 300

&lt;210&gt; 7283

<211> 401  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7283

Pro Gln Ile Gln Ile Thr Asn Lys Tyr Arg Ile Met Lys Ser Phe Leu  
 1 5 10 15  
 Val Asp Gln Asp Gly Tyr Tyr Gly Glu Phe Gly Gly Ala Tyr Val Pro  
 20 25 30  
 Glu Ile Leu His Lys Cys Val Glu Glu Leu Gln Asn Thr Tyr Leu Asp  
 35 40 45  
 Val Ile Glu Ser Glu Asp Phe Lys Lys Glu Phe Asp Gln Leu Leu Arg  
 50 55 60  
 Asp Tyr Val Gly Arg Pro Ser Pro Leu Tyr Pro Ala Arg Arg Leu Ser  
 65 70 75 80  
 Glu Lys Tyr Gly Cys Lys Met Tyr Leu Lys Arg Glu Asp Leu Asn His  
 85 90 95

Thr Gly Ala His Lys Ile Asn Asn Thr Ile Gly Gln Ile Leu Leu Ala  
 100 105 110  
 Arg Arg Met Gly Lys Lys Arg Ile Ile Ala Glu Thr Gly Ala Gly Gln  
 115 120 125  
 His Gly Val Ala Thr Ala Thr Val Cys Ala Leu Met Asn Met Glu Cys  
 130 135 140  
 Ile Val Tyr Met Gly Lys Thr Asp Val Glu Arg Gln His Ile Asn Val  
 145 150 155 160  
 Glu Lys Met Lys Met Leu Gly Ala Thr Val Val Pro Val Thr Ser Gly  
 165 170 175  
 Asn Met Thr Leu Lys Asp Ala Thr Asn Glu Ala Ile Arg Asp Trp Cys  
 180 185 190  
 Cys His Pro Ser Asp Thr Tyr Ile Ile Gly Ser Thr Val Gly Pro  
 195 200 205  
 His Pro Tyr Pro Asp Met Val Ala Arg Leu Gln Ser Val Ile Ser Glu  
 210 215 220  
 Glu Ile Lys Lys Gln Leu Gln Glu Lys Glu Gly Arg Asp Tyr Pro Asp  
 225 230 235 240  
 Tyr Leu Ile Ala Cys Val Gly Gly Ser Asn Ala Ala Gly Thr Ile  
 245 250 255  
 Tyr His Tyr Ile Asp Asp Glu Arg Val Arg Ile Val Leu Ala Glu Ala  
 260 265 270  
 Gly Gly Lys Gly Ile Glu Thr Gly Met Thr Ala Ala Thr Ile Gln Leu  
 275 280 285  
 Gly Lys Met Gly Ile Ile His Gly Ala Arg Thr Phe Val Ile Gln Asn  
 290 295 300  
 Glu Asp Gly Gln Ile Glu Glu Pro Tyr Ser Ile Ser Ala Gly Leu Asp  
 305 310 315 320  
 Tyr Pro Gly Ile Gly Pro Met His Ala Asn Leu Ala Asp Lys Lys Arg  
 325 330 335  
 Ala Met Val Leu Ala Val Asn Asp Asp Glu Ala Ile Arg Ala Ala Tyr  
 340 345 350  
 Glu Leu Thr Arg Leu Glu Gly Ile Ile Pro Ala Leu Glu Ser Ala His  
 355 360 365  
 Ala Leu Gly Ala Leu Glu Lys Ile Thr Phe Lys Pro Glu Asp Val Val  
 370 375 380  
 Val Leu Thr Val Ser Gly Arg Gly Asp Lys Asp Ile Glu Thr Tyr Leu  
 385 390 395 400  
 Gly

&lt;210&gt; 7284

&lt;211&gt; 90

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7284

Ile Ser Lys Gln Ser Arg Thr Lys Phe Arg Gln Ile Leu Lys His Pro  
 1 5 10 15  
 Glu Ile Lys Met Ile Lys Ala Phe Leu Lys Lys Asn Arg Leu Thr Phe  
 20 25 30  
 Ile Gly Leu Val Ile Gly Ala Val Gly Gly Phe Leu Tyr Trp Lys Tyr  
 35 40 45  
 Val Gly Cys Thr Ser Gly Thr Cys Pro Ile Thr Ser Ser Pro Val Asn  
 50 55 60  
 Ser Thr Leu Trp Gly Ala Val Met Gly Gly Leu Leu Leu Asn Leu Phe  
 65 70 75 80  
 Lys Thr Asp Ser Thr Pro Lys Lys Thr Asn  
 85 90

<210> 7285  
<211> 83  
<212> PRT  
<213> B.fragilis

<400> 7285  
Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe  
1 5 10 15  
Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met  
20 25 30  
Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu  
35 40 45  
Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu  
50 55 60  
Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser  
65 70 75 80  
Ser Ala Arg

<210> 7286  
<211> 104  
<212> PRT  
<213> B.fragilis

<400> 7286  
Lys Pro Tyr Lys Ser Leu Phe Lys Glu Asn Leu Asn Arg Phe Leu Ile  
1 5 10 15  
Asn Cys Phe Leu Ile Lys Gln Ile Ser Asn Gly Lys Tyr Tyr Gly Asp  
20 25 30  
Asn Ile Leu Tyr Gly Met Lys Lys Glu Gly Gly Ser Arg Cys Val Val  
35 40 45  
Ser Gly Arg Glu Val Val Arg Leu Gly Gly Glu Leu Ile Ser Pro Gln  
50 55 60  
Ile Glu Thr Glu Ser Tyr Gly Val Phe Cys Tyr Phe Leu Leu Cys Gly  
65 70 75 80  
Thr Leu Cys Tyr Pro Val Met Val Arg Leu Ser Asn Ser Ser Pro  
85 90 95  
Tyr Ala Ile Asn Val Leu Ala Arg  
100

<210> 7287  
<211> 382  
<212> PRT  
<213> B.fragilis

<400> 7287  
Pro Met Asp Asn Phe Ile Phe Gln Asn Pro Val Lys Leu Ile Met Gly  
1 5 10 15  
Arg Gly Met Ile Ser Arg Leu Ser Glu Glu Ile Pro Ala Asp Lys Arg  
20 25 30  
Val Met Ile Thr Phe Gly Gly Ser Val Lys Lys Asn Gly Val Tyr  
35 40 45  
Asp Gln Val Lys Glu Ala Leu Lys Asn His Phe Thr Val Glu Phe Trp  
50 55 60  
Gly Ile Glu Pro Asn Pro Ser Ile Glu Thr Leu Arg Lys Ala Ile Ala  
65 70 75 80  
Leu Gly Lys Glu Glu Lys Val Asp Tyr Leu Leu Ala Val Gly Gly Gly  
85 90 95

Ser Val Ile Asp Gly Thr Lys Leu Ile Ser Ala Gly Leu Leu Tyr Asp  
 100 105 110  
 Gly Asp Ala Trp Asp Leu Val Leu Ala Gly Arg Pro Val Thr His Thr  
 115 120 125  
 Val Pro Leu Ala Thr Val Leu Thr Leu Pro Ala Thr Gly Ser Glu Met  
 130 135 140  
 Asn Ser Gly Ala Val Ile Ser Arg His Glu Thr Lys Glu Lys Tyr Pro  
 145 150 155 160  
 Phe Tyr Ser Asn Tyr Pro Leu Phe Ser Ile Leu Asp Pro Glu Val Thr  
 165 170 175  
 Phe Thr Leu Pro Pro His Gln Val Ala Cys Gly Ile Ala Asp Thr Phe  
 180 185 190  
 Val His Val Met Glu Gln Tyr Met Thr Thr Pro Gly Gln Ser Arg Val  
 195 200 205  
 Met Asp Arg Trp Ala Glu Gly Ile Leu Gln Thr Leu Met Glu Ile Ala  
 210 215 220  
 Pro Lys Ile Arg Glu Asn Gln His Asp Tyr Gln Leu Met Ser Asp Phe  
 225 230 235 240  
 Met Leu Ser Ala Thr Met Ala Leu Asn Gly Phe Ile Ala Met Gly Val  
 245 250 255  
 Ser Gln Asp Trp Ala Thr His Met Ile Gly His Glu Leu Thr Ala Leu  
 260 265 270  
 His Gly Leu Thr His Gly His Thr Leu Val Ile Val Phe Pro Gly Thr  
 275 280 285  
 Leu Arg Val Leu Arg Lys Ala Lys Gly Asp Lys Ile Leu Gln Tyr Gly  
 290 295 300  
 Glu Arg Val Leu Gly Ile Thr Ser Gly Ser Arg Asp Glu Arg Ile Asp  
 305 310 315 320  
 Glu Ala Ile Arg Arg Thr Glu Glu Phe Phe Arg Ser Leu Gly Leu Thr  
 325 330 335  
 Thr Arg Leu Ser Glu Glu Gly Ile Met Glu Thr Ile Asp Glu Ile  
 340 345 350  
 Glu Arg Arg Phe Asn Glu Arg Gly Val Arg Tyr Gly Glu Asn Glu Asp  
 355 360 365  
 Val Thr Gly Ala Val Ala Lys Glu Ile Leu Lys Ser Ser Leu  
 370 375 380

&lt;210&gt; 7288

&lt;211&gt; 1084

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7288

Thr Lys Leu Lys Asn Ile Ile Met Lys Glu Asn Asn Ile Lys Lys  
 1 5 10 15  
 Val Leu Leu Leu Gly Ser Gly Ala Leu Lys Ile Gly Glu Ala Gly Glu  
 20 25 30  
 Phe Asp Tyr Ser Gly Ser Gln Ala Leu Lys Ala Leu Lys Glu Glu Gly  
 35 40 45  
 Ile Glu Thr Ile Leu Ile Asn Pro Asn Ile Ala Thr Val Gln Thr Ser  
 50 55 60  
 Glu Gly Val Ala Asp Gln Ile Tyr Phe Leu Pro Val Thr Pro Tyr Phe  
 65 70 75 80  
 Val Glu Lys Val Ile Arg Lys Glu Arg Pro Glu Gly Ile Met Leu Ala  
 85 90 95  
 Phe Gly Gly Gln Thr Ala Leu Asn Cys Gly Val Ala Leu Tyr Arg Glu  
 100 105 110  
 Gly Ile Leu Glu Lys Tyr Asn Val Lys Val Leu Gly Thr Pro Val Gln  
 115 120 125

Ala Ile Ile Asp Thr Glu Asp Arg Glu Leu Phe Val Asp Lys Leu Asn  
 130 135 140  
 Glu Ile Asp Val Lys Thr Ile Lys Ser Glu Ala Val Glu Asn Ala Glu  
 145 150 155 160  
 Asp Ala Arg Arg Ala Ala Arg Glu Leu Gly Tyr Pro Val Ile Val Arg  
 165 170 175  
 Ala Ala Tyr Ala Leu Gly Gly Leu Gly Ser Gly Phe Cys Asp Asn Glu  
 180 185 190  
 Glu Glu Leu Asp Leu Leu Val Glu Lys Ala Phe Ser Phe Ser Pro Gln  
 195 200 205  
 Val Leu Val Glu Lys Ser Leu Arg Gly Trp Lys Glu Val Glu Tyr Glu  
 210 215 220  
 Val Val Arg Asp Arg Phe Asp Asn Cys Ile Thr Val Cys Asn Met Glu  
 225 230 235 240  
 Asn Phe Asp Pro Leu Gly Ile His Thr Gly Glu Ser Ile Val Ile Ala  
 245 250 255  
 Pro Ser Gln Thr Leu Thr Asn Lys Glu Tyr His Lys Leu Arg Glu Leu  
 260 265 270  
 Ala Ile Arg Ile Ile Arg His Ile Gly Ile Val Gly Glu Cys Asn Val  
 275 280 285  
 Gln Tyr Ala Phe Asp Pro Glu Ser Glu Asp Tyr Arg Val Ile Glu Val  
 290 295 300  
 Asn Ala Arg Leu Ser Arg Ser Ser Ala Leu Ala Ser Lys Ala Thr Gly  
 305 310 315 320  
 Tyr Pro Leu Ala Phe Val Ala Ala Lys Leu Gly Leu Gly Tyr Gly Leu  
 325 330 335  
 Phe Asp Leu Lys Asn Ser Val Thr Lys Thr Thr Ser Ala Phe Phe Glu  
 340 345 350  
 Pro Ala Leu Asp Tyr Val Val Cys Lys Ile Pro Arg Trp Asp Leu Gly  
 355 360 365  
 Lys Phe His Gly Val Asp Lys Glu Leu Gly Ser Ser Met Lys Ser Val  
 370 375 380  
 Gly Glu Val Met Ala Ile Gly Arg Thr Phe Glu Glu Ala Ile Gln Lys  
 385 390 395 400  
 Gly Leu Arg Met Ile Gly Gln Gly Met His Gly Phe Val Glu Asn Lys  
 405 410 415  
 Glu Leu Val Ile Pro Asp Ile Asp Lys Ala Leu His Glu Pro Thr Asp  
 420 425 430  
 Lys Arg Ile Phe Val Ile Ser Lys Ala Phe Arg Ala Gly Tyr Thr Ile  
 435 440 445  
 Asp Gln Val His Glu Leu Thr Lys Ile Asp Lys Trp Phe Leu Gln Lys  
 450 455 460  
 Leu Met Asn Ile Met Asn Thr Ser Glu Glu Leu His Gln Trp Gly Asn  
 465 470 475 480  
 Asn His Lys Gln Ile Ala Asp Leu Pro Ala Asp Leu Leu Lys Gln Ala  
 485 490 495  
 Lys Arg Gln Gly Phe Ser Asp Phe Gln Ile Ala Arg Ala Ile Gly Tyr  
 500 505 510  
 Glu Gly Asp Met Glu Asp Gly Ser Leu Tyr Val Arg Asn Tyr Arg Lys  
 515 520 525  
 Ser Leu Gly Ile Val Pro Val Val Lys Gln Ile Asp Thr Leu Ala Ala  
 530 535 540  
 Glu Tyr Pro Ala Gln Thr Asn Tyr Leu Tyr Leu Thr Tyr Ser Gly Thr  
 545 550 555 560  
 Ala Asn Asp Val Thr Tyr Leu Gly Asp His Arg Ser Ile Val Val Leu  
 565 570 575  
 Gly Ser Gly Ala Tyr Arg Ile Gly Ser Ser Val Glu Phe Asp Trp Cys  
 580 585 590  
 Gly Val Gln Ala Leu Asn Thr Ile Arg Lys Glu Gly Trp Arg Ser Val

595	600	605
Met Ile Asn Tyr Asn Pro Glu Thr Val Ser Thr Asp	Tyr Asp Met Cys	
610	615	620
Asp Arg Leu Tyr Phe Asp Glu Leu Thr Phe Glu Arg	Val Met Asp Val	
625	630	635
Leu Glu Leu Glu Asn Pro Tyr Gly Val Ile Val Ser	Thr Gly Gly Gln	
645	650	655
Ile Pro Asn Asn Leu Ala Leu Arg Leu Asp Ala Gln	Asn Ile His Ile	
660	665	670
Leu Gly Thr Ser Ala Gln Ser Ile Asp Asn Ala Glu	Asp Arg Asp Lys	
675	680	685
Phe Ser Ala Met Leu Asp Arg Ile Gly Val Asp Gln	Pro Glu Trp Arg	
690	695	700
Ala Leu Thr Ser Leu Glu Asp Ile Asn Ser Phe Val	Asp Lys Val Gly	
705	710	715
Phe Pro Val Leu Val Arg Pro Ser Tyr Val Leu Ser	Gly Ala Ala Met	
725	730	735
Asn Val Cys Ser Asn Gln Glu Glu Leu Glu Arg Phe	Leu Gln Leu Ala	
740	745	750
Ala Asn Val Ser Lys Lys His Pro Val Val Val Ser	Gln Phe Ile Glu	
755	760	765
His Ala Lys Glu Val Glu Met Asp Ala Val Ala Gln	Asn Gly Glu Ile	
770	775	780
Ile Ala Tyr Ala Ile Ser Glu His Ile Glu Phe Ala	Gly Val His Ser	
785	790	795
Gly Asp Ala Thr Ile Gln Phe Pro Pro Gln Lys Leu	Tyr Val Glu Thr	
805	810	815
Val Arg Arg Ile Lys Arg Ile Ser Arg Glu Ile Ala	Lys Ala Leu Asn	
820	825	830
Ile Ser Gly Pro Phe Asn Ile Gln Tyr Leu Ala Lys	Asp Asn Asp Ile	
835	840	845
Lys Val Ile Glu Cys Asn Leu Arg Ala Ser Arg Ser	Phe Pro Phe Val	
850	855	860
Ser Lys Val Leu Lys Ile Asn Phe Ile Glu Leu Ala	Thr Lys Val Met	
865	870	875
Leu Gly Leu Pro Val Glu Lys Pro Glu Lys Asn Leu	Phe Glu Leu Asp	
885	890	895
Tyr Val Gly Ile Lys Ala Ser Gln Phe Ser Phe Asn	Arg Leu Gln Lys	
900	905	910
Ala Asp Pro Val Leu Gly Val Asp Met Ala Ser Thr	Gly Glu Val Gly	
915	920	925
Cys Ile Gly Ser Asp Thr Ser Cys Ala Val Leu Lys	Ala Met Leu Ser	
930	935	940
Val Gly Tyr Arg Ile Pro Lys Lys Ile Leu Leu Ser	Thr Gly Thr	
945	950	955
Pro Lys Gln Lys Val Asp Met Leu Glu Ala Ala Arg	Met Leu Gln Lys	
965	970	975
Lys Gly Tyr Asp Ile Phe Ala Thr Gly Ser Ser Lys	Phe Leu Thr	
980	985	990
Glu Asn Gly Val Glu Asn Thr Arg Val Tyr Trp Pro	Ser Glu Glu Gly	
995	1000	1005
His Pro Gln Ala Leu Glu Met Leu His Lys Lys Glu	Ile Asp Met Val	
1010	1015	1020
Val Asn Ile Pro Lys Asn Leu Thr Ala Gly Glu Leu	Asp Asn Gly Tyr	
1025	1030	1035
Lys Ile Arg Arg Ala Ala Ile Asp Leu Asn Ile Pro	Leu Ile Thr Asn	
1045	1050	1055
Ala Arg Leu Ala Ser Ala Phe Ile Asn Ala Phe Cys	Thr Met Asp Ile	
1060	1065	1070

Asp Asp Ile Ala Ile Lys Ser Trp Glu Glu Tyr Lys  
 1075 1080

<210> 7289

<211> 395

<212> PRT

<213> B.fragilis

<400> 7289

Asn Ile Asn Asn Met Thr Asn Glu Leu Glu Leu Lys Tyr Gly Cys Asn  
 1 5 10 15  
 Pro Asn Gln Lys Pro Ala Arg Ile Phe Ile Lys Glu Gly Glu Leu Pro  
 20 25 30  
 Ile Glu Val Leu Asn Gly Arg Pro Gly Tyr Ile Asn Leu Leu Asp Ala  
 35 40 45  
 Leu Asn Ser Trp Gln Leu Val Lys Glu Leu Lys Glu Ala Thr Gly Leu  
 50 55 60  
 Pro Ala Ala Ala Ser Phe Lys His Val Ser Pro Ala Gly Ala Ala Val  
 65 70 75 80  
 Ala Val Glu Met Asn Asp Thr Leu Lys Lys Ile Tyr Phe Val Asp Asp  
 85 90 95  
 Met Glu Leu Ser Pro Met Ala Thr Ala Tyr Ala Arg Ala Arg Gly Ala  
 100 105 110  
 Asp Arg Met Ser Ser Tyr Gly Asp Phe Ile Ala Leu Ser Asp Ile Cys  
 115 120 125  
 Asp Glu Pro Thr Ala Arg Ile Ile Asn Arg Glu Val Ser Asp Gly Val  
 130 135 140  
 Ile Ala Pro Gly Tyr Thr Pro Glu Ala Leu Glu Ile Leu Arg Asn Lys  
 145 150 155 160  
 Arg Lys Gly Thr Tyr Asn Val Ile Lys Ile Asp Pro Ala Tyr Arg Pro  
 165 170 175  
 Ala Pro Ile Glu His Lys Asp Val Phe Gly Ile Thr Phe Glu Gln Gly  
 180 185 190  
 Arg Asn Glu Leu Lys Ile Asp Glu Ser Leu Leu Lys Glu Met Pro Thr  
 195 200 205  
 Arg Asn Arg Ile Ile Pro Ala Asp Ala Gln Arg Asp Leu Ile Ile Ala  
 210 215 220  
 Leu Ile Thr Leu Lys Tyr Thr Gln Ser Asn Ser Val Cys Tyr Ala Lys  
 225 230 235 240  
 Asp Gly Gln Ala Ile Gly Ile Gly Ala Gly Gln Gln Ser Arg Ile His  
 245 250 255  
 Cys Thr Arg Leu Ala Gly Asn Lys Ala Asp Ile Trp Tyr Leu Arg Gln  
 260 265 270  
 His Pro Lys Val Met Asn Leu Pro Trp Lys Glu Lys Ile Arg Arg Ala  
 275 280 285  
 Asp Arg Asp Asn Thr Ile Asp Val Tyr Ile Ser Asp Asp Tyr Met Asp  
 290 295 300  
 Val Leu Ala Asp Gly Val Trp Glu Gln Phe Phe Thr Arg Lys Pro Glu  
 305 310 315 320  
 Val Leu Thr Arg Glu Glu Lys Arg Ala Trp Leu Asp Thr Gln Ser Gly  
 325 330 335  
 Val Ala Leu Gly Ser Asp Ala Phe Phe Pro Phe Gly Asp Asn Ile Glu  
 340 345 350  
 Arg Ala His Lys Ser Gly Val Ser Tyr Ile Ala Gln Pro Gly Gly Ser  
 355 360 365  
 Val Arg Asp Asp His Val Ile Glu Thr Cys Asp Lys Tyr Asp Ile Ala  
 370 375 380  
 Met Ala Phe Thr Gly Ile Arg Leu Phe His His  
 385 390 395

<210> 7290  
<211> 313  
<212> PRT  
<213> B.fragilis

<400> 7290

Asn	Lys	Asn	Asn	Met	Ala	Leu	Val	Asn	Glu	His	Phe	Leu	Lys	Leu	Pro
1				5				10					15		
Gly	Ser	Tyr	Leu	Phe	Ser	Asp	Ile	Ala	Lys	Lys	Val	Asn	Thr	Phe	Lys
			20					25				30			
Ile	Thr	His	Pro	Lys	Arg	Asp	Ile	Ile	Arg	Leu	Gly	Ile	Gly	Asp	Val
	35					40				45					
Thr	Arg	Pro	Leu	Pro	Lys	Ala	Cys	Ile	Glu	Ala	Met	His	Lys	Ala	Val
	50					55				60					
Glu	Glu	Met	Thr	Ser	Ala	Glu	Thr	Phe	Arg	Gly	Tyr	Gly	Pro	Glu	Gln
	65					70			75				80		
Gly	Tyr	Asp	Phe	Leu	Ile	Glu	Ala	Ile	Ile	Lys	Asn	Asp	Tyr	Ala	Pro
		85							90			95			
Arg	Gly	Ile	His	Leu	Ser	Pro	Thr	Glu	Val	Phe	Val	Asn	Asp	Gly	Ala
	100					105				110					
Lys	Ser	Asp	Thr	Gly	Asn	Ile	Gly	Asp	Ile	Leu	Arg	His	Asp	Asn	Ser
	115					120				125					
Val	Gly	Val	Thr	Asp	Pro	Ile	Tyr	Pro	Val	Tyr	Ile	Asp	Ser	Asn	Val
	130					135				140					
Met	Cys	Gly	Arg	Ala	Gly	Val	Leu	Asp	Thr	Glu	Ser	Gly	Lys	Trp	Ser
	145					150			155				160		
Asn	Val	Thr	Tyr	Met	Pro	Cys	Thr	Ala	Glu	Asn	His	Phe	Ile	Pro	Ala
						165			170			175			
Ile	Pro	Glu	Lys	Arg	Ile	Asp	Ile	Val	Tyr	Leu	Cys	Tyr	Pro	Asn	Asn
		180						185			190				
Pro	Thr	Gly	Thr	Leu	Thr	Lys	Ala	Glu	Leu	Lys	Lys	Trp	Val	Asp	
		195				200				205					
Tyr	Ala	Leu	Ala	Asn	Asp	Thr	Leu	Ile	Leu	Phe	Asp	Ala	Ala	Tyr	Glu
		210				215				220					
Ala	Tyr	Ile	Arg	Glu	Pro	Asp	Ile	Pro	His	Ser	Ile	Tyr	Glu	Ile	Lys
	225					230			235			240			
Gly	Ala	Lys	Lys	Cys	Ala	Ile	Glu	Phe	Arg	Ser	Phe	Ser	Lys	Thr	Ala
						245			250			255			
Gly	Phe	Thr	Gly	Val	Arg	Cys	Gly	Tyr	Thr	Val	Val	Pro	Lys	Glu	Leu
		260				265				270					
Thr	Ala	Ala	Thr	Leu	Glu	Gly	Glu	Arg	Ile	Pro	Leu	Asn	Arg	Leu	Trp
		275				280				285					
Asn	Pro	Pro	Ala	Met	His	Gln	Ile	Gln	Arg	Tyr	Val	Val	His	Tyr	Ala
		290				295			300						
Thr	Cys	Gly	Arg	Ser	Asp	Leu	His	Ser							
	305				310										

<210> 7291  
<211> 505  
<212> PRT  
<213> B.fragilis

<400> 7291

Ser	Ile	Arg	Lys	Ala	Glu	Asp	Ser	Leu	Phe	Tyr	Ser	Ser	Asp	Arg	Lys
1				5				10				15			
Gln	Val	Leu	Ala	Val	Asn	Gly	Glu	Ile	Tyr	Asn	His	Arg	Asp	Ile	Arg
		20				25				30					
Ala	Gln	Tyr	Ala	Gly	Arg	Tyr	Glu	Phe	Arg	Thr	Gly	Ser	Asp	Cys	Glu

35	40	45
Val Ile Leu Ala Leu Tyr Arg Asp Lys Gly Ile His Phe Leu Glu Glu		
50	55	60
Leu Asn Gly Ile Phe Ala Phe Ala Leu Tyr Asp Glu Glu Lys Asp Glu		
65	70	75
Tyr Leu Ile Ala Arg Asp Pro Ile Gly Val Ile Pro Leu Tyr Ile Gly		
85	90	95
Lys Asp Ala Glu Gly His Val Tyr Phe Gly Ser Glu Leu Lys Ala Leu		
100	105	110
Glu Gly Phe Cys Asp Glu Tyr Glu Pro Phe Leu Pro Gly His Tyr Tyr		
115	120	125
His Ser Lys Glu Arg Thr Met Lys Arg Trp Tyr Thr Arg Asp Trp Met		
130	135	140
Glu Tyr Lys Glu Glu Asn Asp Lys Gln Ala Asp Ser Arg Ser Pro Thr		
145	150	155
Arg Gln Ile Gln Asp Ala Leu Glu Asn Ala Val His Arg Gln Leu Met		
165	170	175
Ser Asp Val Pro Tyr Gly Val Leu Leu Ser Gly Gly Leu Asp Ser Ser		
180	185	190
Val Ile Ser Ala Ile Ala Lys Lys Tyr Ala Ala Lys Arg Ile Glu Thr		
195	200	205
Asp Gly Ala Ser Asp Ala Trp Trp Pro Gln Leu His Ser Phe Ala Ile		
210	215	220
Gly Leu Lys Gly Ala Pro Asp Leu Ile Lys Ala Arg Glu Val Ala Glu		
225	230	235
Tyr Ile Gly Thr Val His His Glu Ile Asn Tyr Thr Leu Gln Glu Gly		
245	250	255
Leu Asp Ala Ile Arg Asp Val Ile Tyr Phe Ile Glu Thr Tyr Asp Val		
260	265	270
Thr Thr Val Arg Ala Ser Thr Pro Met Tyr Leu Leu Ala Arg Val Ile		
275	280	285
Lys Ser Met Gly Ile Lys Met Val Leu Ser Gly Glu Gly Ala Asp Glu		
290	295	300
Ile Phe Gly Gly Tyr Leu Tyr Phe His Lys Ala Pro Asp Ala Arg Ala		
305	310	315
Phe His Glu Glu Thr Val Arg Lys Leu Ser Lys Leu His Leu Tyr Asp		
325	330	335
Cys Leu Arg Ala Asn Lys Ser Leu Ala Ala Trp Gly Val Glu Gly Arg		
340	345	350
Val Pro Phe Leu Asp Lys Glu Phe Leu Asp Val Ala Met Gln Leu Asp		
355	360	365
Pro Glu Ile Lys Met Ala Pro Gly Lys Val Ile Glu Lys Lys Val Leu		
370	375	380
Arg Glu Ala Phe Ala Asp Met Leu Pro Ser Gly Ile Ala Trp Arg Gln		
385	390	395
Lys Glu Gln Phe Ser Asp Gly Val Gly Tyr Ser Trp Ile Asp Thr Leu		
405	410	415
Lys Glu Ile Thr Ala Thr Ala Val Ser Asp Glu Gln Met Ala His Ala		
420	425	430
Ala Glu Arg Phe Pro Ile His Thr Pro Met Asn Lys Glu Glu Tyr Tyr		
435	440	445
Tyr Arg Ser Ile Phe Glu Glu His Phe Pro Ser Glu Ser Ala Ala Arg		
450	455	460
Ser Val Pro Ser Ile Pro Ser Val Ala Cys Ser Thr Ala Glu Ala Leu		
465	470	475
Ala Trp Asp Thr Thr Phe Lys Asn Leu Asn Asp Pro Ser Gly Arg Ala		
485	490	495
Val Lys Gly Val His Glu Glu Ala Tyr		
500	505	

&lt;210&gt; 7292

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7292

Gly Ser Val Asn Glu Glu Gly Ser Pro Glu Gly Leu Leu Arg Lys Val  
 1 5 10 15  
 Gln Leu Ile Arg Ile Pro Leu Arg Leu Gly Glu Asp Ala Phe Thr Thr  
 20 25 30  
 Gly Glu Ile Ser Glu Gly Lys Ala Glu Lys Leu Ile Arg Leu Met Lys  
 35 40 45  
 Ala Tyr Lys Gln Leu Met Lys Ile Phe Glu Val Ser Asp Tyr Arg Ala  
 50 55 60  
 Cys Ala Thr Ser Ala Met Arg Asp Ala Arg Asn Gly Lys Glu Ile Thr  
 65 70 75 80  
 Arg Lys Ile Glu Lys Lys Thr Gly Ile Arg Val Glu Ile Ile Asp Gly  
 85 90 95  
 Gln Glu Glu Ala His Ile Val Tyr Asp Asn His Ile Glu Gln Leu Phe  
 100 105 110  
 Ala Ser Gly Gln Asn Tyr Leu Tyr Val Asp Val Gly Gly Ser Thr  
 115 120 125  
 Glu Ile Asn Leu Ile Cys Asp Ser Glu Leu Lys Ser Ser Arg Ser Tyr  
 130 135 140  
 Asn Ile Gly Thr Val Arg Met Leu Ser Gly Met Val Lys Asn Glu Glu  
 145 150 155 160  
 Lys Glu Gln Met Arg Thr Asp Leu Gln Ala Leu Ala Ala Glu Tyr Thr  
 165 170 175  
 Pro Ile Gln Ile Ile Gly Ser Gly Gly Asn Ile Asn Lys Leu Phe Arg  
 180 185 190  
 Leu Ala Asp Lys Lys Asp Lys Lys Gln Ser Phe Leu Pro Ile Glu Ser  
 195 200 205  
 Leu Lys Glu Ile Cys Glu Thr Leu Lys Ala Leu Ser Lys Glu Glu Arg  
 210 215 220  
 Ile Lys Gln Phe Lys Leu Lys Pro Asp Arg Ala Asp Val Ile Val Pro  
 225 230 235 240  
 Ala Ala Glu Ile Phe Leu Glu Val Ala Lys Gln Val Asn Ala Thr Gly  
 245 250 255  
 Ile Thr Val Pro Thr Ile Gly Leu Ser Asp Gly Ile Ile Asp Ser Leu  
 260 265 270  
 Tyr Thr Lys Asn Met Arg Met Glu Thr Asp Ala Lys  
 275 280

&lt;210&gt; 7293

&lt;211&gt; 331

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7293

Ile Cys Pro Asn Val Phe Phe Leu Thr Arg His Gly Asp Tyr Pro Lys  
 1 5 10 15  
 Asp Phe His Arg Val Tyr Thr Lys Arg Lys Arg Ile Thr Val Arg Tyr  
 20 25 30  
 Arg Ile Met Asp Thr Phe Ile Gln Thr Thr Asp Phe Ile Leu Phe Leu  
 35 40 45  
 Cys Phe Ser Leu Met Thr Val Tyr Leu Gly Val Leu Ala Ile Ala Ala  
 50 55 60  
 Ser Leu Arg Asn Asp Thr Pro Tyr Pro Gln Ala Gly Lys Arg His Arg

65	70	75	80
Phe Ala Ile Leu Val Pro Pro Gly Ser Thr Ser		Leu Pro Leu Pro His	
85		90	95
Tyr Pro Glu Glu Leu Tyr Gln Val Phe Thr Tyr		Glu Asp Leu Thr Glu	
100		105	110
Ala Ile Ala Ala Leu Asn Glu Asn Asp Phe Asp		Gly Val Val Val Leu	
115		120	125
Gly Glu Thr Thr Arg Ile Glu Pro Ala Phe Leu		Glu Ile Asn Ser	
130		135	140
Val Phe Asp Ala Gly Ile Gln Ala Ile Gln Leu		Arg His Ile Thr Glu	
145		150	160
Lys Arg Ser Thr Arg Lys Gln Tyr Phe Gln Ala		Leu Asn Glu Glu Ile	
165		170	175
Thr Gln Ala Leu Phe Gly Thr Gly Ala Thr Arg		Leu Gly Val Ser Ser	
180		185	190
Ala Leu Tyr Gly Ala Asp Met Val Leu Asp Leu		Lys Trp Leu Lys Lys	
195		200	205
Asn Gln Lys Ser Arg Lys Ser Asn Leu Glu Arg		Arg Arg Leu Val Arg Gln	
210		215	220
Gly Ile Phe Val Glu Tyr Leu Glu Lys Val Lys		Val Tyr Ser Ser Asp	
225		230	235
Ile Arg Ala Pro Arg Tyr Lys Val Arg Phe Ser		Lys Ala Leu Arg Ala	
245		250	255
Leu Pro Glu Ala Ile Phe Thr Ala His Trp Asp		Tyr Cys Asn Lys Ile	
260		265	270
Leu Arg Trp Ile Leu Pro Ser Arg Lys Thr Asn		Leu Ile Ser Ile Ala	
275		280	285
Leu Ile Ala Thr Ala Leu Leu Cys Tyr Asp Trp		Ser Leu Ser Leu Lys	
290		295	300
Trp Trp Ser Leu Leu Tyr Ile Leu Met Phe Ile		Ile Cys Leu Ala Ile	
305		310	315
Pro Asp Tyr Leu Val Arg Gln Lys Thr Lys Lys			320
	325		330

&lt;210&gt; 7294

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7294

Lys Ala Glu Lys Met Lys Lys Ser Ile Leu Ile	Pro Phe Leu Phe Met		
1	5	10	15
Gly Leu Leu Ala Phe Ala Ser Cys Lys Gly	Thr Ser Glu Asn Lys Ser		
20	25	30	
Thr Thr Ala Thr Asp Thr Val Gln Ala Glu Lys	Pro Gln Ser Gly Thr		
35	40	45	
Ile His Leu Thr Arg Ala Glu Phe Leu Lys Ile	Ala Asp Tyr Glu		
50	55	60	
Asn His Ser Lys Glu Trp Lys Tyr Leu Gly	Asp Lys Pro Ala Ile Val		
65	70	75	80
Asp Phe Tyr Ala Asp Trp Cys Gly Pro Cys	Lys Met Val Ala Pro Ile		
85	90	95	
Leu Glu Glu Leu Ser Lys Glu Tyr Ala Gly	Lys Ile Tyr Ile Tyr Lys		
100	105	110	
Val Asn Val Asp Lys Glu Pro Glu Leu Ala	Arg Asp Phe Gly Ile Gln		
115	120	125	
Ser Ile Pro Thr Ile Trp Phe Val Pro Met Lys	Gly Glu Pro Gln Val		
130	135	140	
Asn Met Gly Ala Leu Ser Lys Glu Gln Leu Lys	Gly Tyr Ile Asp Lys		

145                    150  
 Val Leu Leu Lys Gln  
 165

155                    160

<210> 7295  
<211> 281  
<212> PRT  
<213> B.fragilis

<400> 7295  
 Thr Asp Arg Lys Ala Ile Thr His Gln Arg Asn Met Lys Asp Ile Leu  
 1                    5                    10                    15  
 Ser Glu Ile Ile Ala Asn Lys Arg Phe Glu Ile Asp Leu Gln Lys Gln  
 20                    25                    30  
 Ala Ile Pro Ser Glu Gln Leu Gln Glu Lys Leu Ser Asp Glu Val Gln  
 35                    40                    45  
 Pro Gly Tyr Ser Met Lys Gln Ala Leu Ala Ser Ser Ala Thr Gly Ile  
 50                    55                    60  
 Ile Ala Glu Phe Lys Arg Arg Ser Pro Ser Lys Gly Trp Ile Tyr Lys  
 65                    70                    75                    80  
 Asn Ala Cys Pro Glu Gln Val Val Pro Asp Tyr Ile Ala Ala Gly Ala  
 85                    90                    95  
 Ser Ala Leu Ser Ile Leu Thr Asp Glu Lys Phe Phe Gly Gly Ser Leu  
 100                  105                  110  
 Lys Asp Ile Arg Thr Ala Arg Pro Leu Val Asn Ile Pro Ile Leu Arg  
 115                  120                  125  
 Lys Asp Phe Ile Ile Asp Glu Tyr Gln Leu Phe Gln Ala Lys Ile Val  
 130                  135                  140  
 Gly Ala Asp Ala Ile Leu Ile Ala Ala Ala Leu Glu Ala Asp Gln  
 145                  150                  155                  160  
 Cys His Ala Leu Ala Ala Lys Ala His Glu Leu Gly Leu Glu Val Leu  
 165                  170                  175  
 Leu Glu Ile His Thr Ala Glu Glu Leu Pro Phe Ile Asn Lys Glu Ile  
 180                  185                  190  
 Asp Met Val Gly Ile Asn Asn Arg Asn Leu Gly Thr Phe Phe Thr Asp  
 195                  200                  205  
 Val Glu Asn Ser Phe Arg Leu Ala Gly Gln Leu Pro Gln Asp Ala Leu  
 210                  215                  220  
 Leu Val Ser Glu Ser Gly Ile Ser Asp Pro Glu Thr Val Lys Arg Leu  
 225                  230                  235                  240  
 Arg Lys Ala Gly Phe Arg Gly Phe Leu Ile Gly Glu Thr Phe Met Lys  
 245                  250                  255  
 Ala Gln Gln Pro Gly Gln Lys Leu Lys Glu Phe Ile Asn Asp Leu Asn  
 260                  265                  270  
 Ser Pro Gln Ser Asp Thr Glu Ser His  
 275                  280

<210> 7296  
<211> 238  
<212> PRT  
<213> B.fragilis

<400> 7296  
 Ile Arg Cys Leu Met Asp Lys Leu Gln Lys Tyr Lys Pro Thr Asp Lys  
 1                    5                    10                    15  
 Met Ile Asp Leu Ile Gly Asp Asn Tyr Ser Leu Leu Gln Val Met Ser  
 20                    25                    30  
 Arg Phe Gly Leu Ser Leu Gly Phe Gly Asp Lys Thr Val Lys Glu Val  
 35                    40                    45

Cys Glu Met Asn Asn Val Asp Cys Gln Thr Phe Leu Val Val Val Asn  
 50 55 60  
 Phe Met Ala Glu Gly Phe Ser Arg Met Asp Gly Ser Ala Asp Asp Ile  
 65 70 75 80  
 Ser Ile Pro Ala Leu Val Asp Tyr Leu Arg Gln Ala His Ile Tyr Phe  
 85 90 95  
 Leu Asp Tyr Cys Leu Pro Ala Ile Arg Arg Lys Leu Ile Glu Ala Ile  
 100 105 110  
 Asp Cys Ser Gln Asp Asp Val Ser Phe Leu Ile Leu Lys Phe Phe Asp  
 115 120 125  
 Gly Tyr Met Arg Glu Val Arg Lys His Met Glu Tyr Glu Glu Lys Thr  
 130 135 140  
 Val Phe Lys Tyr Val Asp Thr Leu Ile His Gly Asn Ala Pro Lys Asn  
 145 150 155 160  
 Tyr Gln Ile Ser Thr Phe Ser Lys His His Asp Gln Val Gly Glu Arg  
 165 170 175  
 Leu Thr Glu Leu Lys Asn Ile Ile Lys Tyr Cys Pro Ala Lys Ala  
 180 185 190  
 Asn Thr Asn Val Leu Asn Ala Ala Leu Phe Asp Ile Tyr Ala Cys Glu  
 195 200 205  
 Glu Gly Leu Glu Ser His Cys Lys Val Glu Asp Tyr Leu Phe Val Pro  
 210 215 220  
 Ala Ile Leu Lys Leu Glu Arg Arg Met Arg Glu Asn Glu Lys  
 225 230 235

&lt;210&gt; 7297

&lt;211&gt; 265

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7297

Lys Tyr Met Asn Arg Ile Asn Gln Leu Phe Asp Ser Asn Pro Arg Asp  
 1 5 10 15  
 Leu Leu Ser Ile Tyr Phe Cys Ala Gly Tyr Pro Thr Leu Glu Gly Thr  
 20 25 30  
 Thr Glu Val Ile Arg Thr Leu Glu Lys His Gly Val Asn Met Ile Glu  
 35 40 45  
 Ile Gly Ile Pro Phe Ser Asp Pro Met Ala Asp Gly Met Val Ile Gln  
 50 55 60  
 Asn Ala Ala Thr Gln Ala Leu Arg Asn Gly Met Ser Leu Arg Leu Leu  
 65 70 75 80  
 Phe Glu Gln Leu His Asp Ile Arg Arg Asp Val Lys Ile Pro Leu Ile  
 85 90 95  
 Leu Met Gly Tyr Leu Asn Pro Ile Met Gln Phe Gly Phe Asp Asn Phe  
 100 105 110  
 Cys Arg Gln Cys Ala Glu Cys Gly Ile Asp Gly Val Ile Ile Pro Asp  
 115 120 125  
 Leu Pro Phe Lys Asp Tyr Gln Glu His Phe Arg Thr Ile Ala Glu Arg  
 130 135 140  
 Tyr Asp Val Lys Val Ile Met Leu Ile Thr Pro Glu Thr Ser Glu Glu  
 145 150 155 160  
 Arg Val Arg Glu Ile Asp Glu His Thr Asp Gly Phe Ile Tyr Met Val  
 165 170 175  
 Ser Ser Ala Ala Thr Thr Gly Ala Gln Gln Asp Phe Asp Gly Gln Lys  
 180 185 190  
 Arg Ala Tyr Phe Lys Lys Ile Glu Lys Met Asn Leu Arg Asn Pro Arg  
 195 200 205  
 Met Val Gly Phe Gly Ile Ser Asn Glu Ala Thr Phe Arg Ala Ala Cys  
 210 215 220

Glu Asn Ala Ser Gly Ala Ile Ile Gly Ser Arg Phe Val Thr Leu Leu  
 225 230 235 240  
 His Glu Glu Lys Asn Pro Glu Lys Ala Ile Thr Arg Leu Lys Ala Ile  
 245 250 255  
 Leu Asn Leu Ser Ser Asn Asp Leu Arg  
 260 265

<210> 7298

<211> 388

<212> PRT

<213> B.fragilis

<400> 7298

Phe Cys Met Lys Thr Ser Tyr Leu Leu Leu Ser Ser Ala Leu Leu Leu  
 1 5 10 15  
 Gly Cys Leu Ser Ala Cys Asn Thr Ser Pro Arg Glu Pro Lys Ala Met  
 20 25 30  
 Glu Ala Asn Asp Gly Ser Val Thr Thr Ile Glu Ser Asn Gly Asn Lys  
 35 40 45  
 Leu Thr Val Cys Asp Leu Ser Ala Val Lys Asp Thr Ile Glu Val Pro  
 50 55 60  
 Leu Ser Glu Phe Val Glu Asp Cys Arg Ile Val Arg Phe Glu Thr Ser  
 65 70 75 80  
 Glu Glu Ala Tyr Phe Lys Ala Trp Phe Ile Asn Ala Thr Asp Lys His  
 85 90 95  
 Ile Gly Ile Arg Gln Gly Asn Gln Asp Val Phe Lys Leu Phe Asp Arg  
 100 105 110  
 Asp Gly Lys Phe Leu Tyr Asn Val Gly Ser Val Gly Ser Gly Pro Gly  
 115 120 125  
 Glu Tyr Asp Thr Thr Leu Tyr Asp Glu Cys Ile Asp Glu Lys Asn Gly  
 130 135 140  
 His Ile Phe Phe Thr Pro Phe Val Gly Lys Arg Ile Met Met Tyr Asp  
 145 150 155 160  
 Ile Asn Gly Gln Trp Ile Lys Asp Ile Pro Leu Pro Met Gln Ile Asn  
 165 170 175  
 Lys Ala Lys Ile Trp Val Asn Glu Asp Gly Ser Leu Ser Val Val His  
 180 185 190  
 Met Pro Phe Glu Glu Gly Glu Pro Leu Ala Phe Arg Val Asp Thr Glu  
 195 200 205  
 Gly Asn Ile Leu Asn Gln Ile Pro Ala Thr Ala Ala Thr Lys Val Met  
 210 215 220  
 Asn Phe Asp Gly Glu Val Phe Ser Tyr Arg Asn Cys Gly Asp Phe Asp  
 225 230 235 240  
 Phe Phe His Thr Gly Ile Asp Thr Leu Phe Thr Tyr Asp Ser Ala Gly  
 245 250 255  
 Asn Lys Leu Leu Pro Lys Phe Thr Met Thr Phe Pro Asn Met Asn Glu  
 260 265 270  
 Lys Pro Ile His Leu Tyr Tyr Arg Leu Pro His His Phe Ile Val Thr  
 275 280 285  
 Tyr Trp Gly Asn Lys Gly Glu Gly Gly Asp Val Leu Val Asp Thr  
 290 295 300  
 Glu Lys Asn Ala Ser Ser Tyr Phe Arg Leu Val Asn Asp Phe Tyr Gly  
 305 310 315 320  
 Asn Leu Pro Ile Pro Ala Pro Gly His Ser Phe Tyr Arg Gly Tyr Phe  
 325 330 335  
 Ile Gln Ser Leu Glu Pro Gly Gln Leu Ile Glu Lys Ile Glu Lys Gln  
 340 345 350  
 Ile Ala Ser Gly Lys Cys Ser Gly Gln Asp Glu Gln Lys Leu Lys Glu  
 355 360 365

Leu Ala Ala Thr Leu Thr Glu Asn Asp Asn Asn Val Leu Phe Ile Gly  
 370 375 380  
 Lys Val Lys Lys  
 385

<210> 7299  
 <211> 73  
 <212> PRT  
 <213> B.fragilis

<400> 7299  
 Met Gln Arg Glu Ser Gln Ser Arg Gln Ser Asp Cys Arg Thr Val Ser  
 1 5 10 15  
 Ser Thr Ala Ser Ile Pro Arg Ile Cys Ala Trp Lys Arg Thr Leu Asn  
 20 25 30  
 Lys Thr Gly His His Arg Leu His Arg Leu Thr Gln Ile Ile Tyr Arg  
 35 40 45  
 Val Asp Ser Trp Tyr Lys Arg Ile Tyr Ala Asn Val Ser Tyr Asp Ser  
 50 55 60  
 Pro Gln Ile Thr Arg Ile Phe Thr Asp  
 65 70

<210> 7300  
 <211> 269  
 <212> PRT  
 <213> B.fragilis

<400> 7300  
 Ile Ala Leu Leu Phe Ile Ser Leu Lys Ala Asn Gln Lys Leu Lys Tyr  
 1 5 10 15  
 Met Lys Ile Lys Lys Leu Leu Phe Ala Ser Ala Leu Leu Phe Ser Ala  
 20 25 30  
 Tyr Asn Ala Ser Ala Gln Thr Gln Val Ile Ala His Arg Gly Phe Trp  
 35 40 45  
 Lys Thr Glu Gly Ser Ala Gln Asn Ser Ile Ala Ala Leu Leu Lys Ala  
 50 55 60  
 Asp Ser Ile Gly Cys Tyr Gly Ser Glu Phe Asp Val Trp Leu Ala Ala  
 65 70 75 80  
 Asp Asp Gln Leu Val Val Asn His Asp Pro Thr Phe Lys Gly Lys Arg  
 85 90 95  
 Met Glu Asn Ser Pro Ser Thr Ala Leu Thr Ala Ile Lys Leu Asp Asn  
 100 105 110  
 Gly Glu Ser Leu Pro Thr Leu Ala Lys Tyr Leu Lys Ala Ala Gln Pro  
 115 120 125  
 Leu His Thr Arg Leu Ile Leu Glu Leu Lys Ala His Ser Thr Pro Leu  
 130 135 140  
 Arg Glu Thr Lys Ala Ile Glu Lys Ile Val Ala Leu Val Lys Asp Met  
 145 150 155 160  
 Gly Leu Glu Glu Arg Met Glu Tyr Ile Thr Phe Ser Leu His Ala Thr  
 165 170 175  
 Lys Glu Phe Ile Arg Leu Ala Pro Glu Gly Thr Pro Val Tyr Tyr Leu  
 180 185 190  
 Asp Gly Asn Leu Ser Pro Lys Glu Leu Lys Glu Leu Gly Cys Ala Gly  
 195 200 205  
 Pro Asp Tyr His Tyr Thr Val Phe Arg Lys His Pro Glu Trp Ile Gln  
 210 215 220  
 Glu Cys His Asp Leu Gly Met Lys Val Asn Ala Trp Thr Val Asn Lys  
 225 230 235 240  
 Thr Asp Asp Met Lys Trp Leu Ile Asp Arg Lys Val Asp Phe Ile Thr

245

250

255

Thr Asn Glu Pro Val Gln Leu Lys Asn Leu Leu Lys Lys  
 260 265

&lt;210&gt; 7301

&lt;211&gt; 627

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7301

Met Glu Gln Leu Lys His Glu Cys Gly Val Ala Met Ile Arg Leu Leu  
 1 5 10 15  
 Lys Pro Leu Glu Tyr Tyr Glu Lys Lys Tyr Gly Thr Trp Met Tyr Gly  
 20 25 30  
 Leu Asn Lys Leu Tyr Leu Leu Met Glu Lys Gln His Asn Arg Gly Gln  
 35 40 45  
 Glu Gly Ala Gly Leu Ala Cys Val Lys Leu Glu Val Asn Pro Gly Glu  
 50 55 60  
 Glu Tyr Met Phe Arg Glu Arg Ala Leu Gly Ser Gly Ala Ile Thr Glu  
 65 70 75 80  
 Ile Phe Glu Thr Val Gln Ser Asn Phe Lys Asp Leu Ser Lys Glu Gln  
 85 90 95  
 Leu His Asp Ala Ala Phe Ala Lys Arg Thr Leu Pro Phe Ala Gly Glu  
 100 105 110  
 Ala Tyr Met Gly His Leu Arg Tyr Ser Thr Thr Gly Lys Ser Gly Ile  
 115 120 125  
 Ser Tyr Val His Pro Phe Leu Arg Arg Asn Asn Trp Arg Ala Lys Asn  
 130 135 140  
 Leu Ala Leu Cys Gly Asn Phe Asn Met Thr Asn Val Asp Glu Ile Phe  
 145 150 155 160  
 Ala Arg Ile Thr Ala Ile Gly Gln His Pro Arg Lys Tyr Ala Asp Thr  
 165 170 175  
 Tyr Ile Met Leu Glu Gln Val Gly His Arg Leu Asp Arg Glu Val Glu  
 180 185 190  
 Arg Leu Phe Asn Leu Ala Glu Ala Glu Gly Leu Thr Gly Met Gly Val  
 195 200 205  
 Thr His Tyr Ile Glu Asp His Ile Asp Leu Ala Asn Val Leu Arg Thr  
 210 215 220  
 Ser Ser Lys Glu Trp Asp Gly Gly Tyr Val Met Cys Gly Leu Thr Gly  
 225 230 235 240  
 Ser Gly Glu Ser Phe Ala Leu Arg Asp Pro Trp Gly Ile Arg Pro Ala  
 245 250 255  
 Phe Trp Tyr Gln Asp Asp Glu Ile Ala Val Leu Ala Ser Glu Arg Pro  
 260 265 270  
 Val Ile Gln Thr Ala Leu Asn Val Pro Ile Gly Glu Ile Arg Glu Leu  
 275 280 285  
 Leu Pro Gly Gln Ala Leu Leu Ile Ser Lys Glu Gly Lys Leu Arg Thr  
 290 295 300  
 Ala Gln Ile Asn Lys Ala Arg Glu Lys Lys Ala Cys Ser Phe Glu Arg  
 305 310 315 320  
 Ile Tyr Phe Ser Arg Gly Ser Asp Ala Asp Ile Tyr Lys Glu Arg Lys  
 325 330 335  
 Gln Leu Gly Glu Lys Leu Val Pro Asn Ile Leu Lys Ala Ile Asp Asn  
 340 345 350  
 Asp Leu Asp His Thr Val Phe Ser Phe Ile Pro Asn Thr Ala Glu Val  
 355 360 365  
 Ala Phe Tyr Gly Met Leu Gln Gly Leu Asp Asn Tyr Leu Asn Glu Glu  
 370 375 380  
 Lys Val Arg Gln Ile Ala Ser Leu Gly His His Pro Asp His Asp Glu

385	390	395	400
Leu Glu Val Ile Leu Ser Arg Arg Ile Arg Ser	Glu Lys Val Ala Ile		
405		410	415
Lys Asp Ile Lys Leu Arg Thr Phe Ile Ala Glu Gly Asn	Ser Arg Asn		
420		425	430
Asp Leu Ala Ala His Val Tyr Asp Ile Thr Tyr Gly Ser	Leu Arg Ser		
435		440	445
Gly Ile Asp Asn Leu Val Ile Ile Asp Asp Ser	Ile Val Arg Gly Thr		
450		455	460
Thr Leu Lys Gln Ser Ile Ile Gly Ile Leu Asp Arg	Leu Gly Pro Lys		
465		470	475
Lys Ile Val Ile Val Ser Ser Ser Pro Gln Val Arg	Tyr Pro Asp Tyr		
485		490	495
Tyr Gly Ile Asp Met Ala Lys Met Ser Glu Phe Ile Ala	Phe Lys Ala		
500		505	510
Ala Ile Glu Leu Leu Lys Asp Arg Asp Met Lys Asp Val	Ile Ala Ser		
515		520	525
Ala Tyr Arg Lys Ser Lys Asp Gln Val Gly Leu Pro	Lys Glu Gln Met		
530		535	540
Val Asn Tyr Val Lys Asp Ile Tyr Ala Pro Phe Thr Asp	Glu Glu Ile		
545		550	555
Ser Glu Lys Met Val Glu Leu Leu Thr Pro Lys Gly Thr	Lys Ala Lys		
565		570	575
Val Gln Ile Val Tyr Gln Pro Leu Glu Gly Leu His	Glu Ala Cys Pro		
580		585	590
Asn His Thr Gly Asp Trp Tyr Phe Ser Gly Asn Tyr	Pro Thr Pro Gly		
595		600	605
Gly Val Lys Leu Leu Asn Glu Ala Phe Ile Asn Tyr	Ile Glu Gln Val		
610		615	620
Tyr Gln Phe			
625			

<210> 7302  
<211> 352  
<212> PRT  
<213> B.fragilis

<400> 7302			
Lys Asn Lys Leu Ile Thr Pro Leu Met	Thr Thr Asn Glu Gln Glu		
1	5	10	15
Gln Ser Arg Ala Tyr Ile Leu Ala Gly	Ile Phe Thr Leu Ser Leu Arg		
20		25	30
Leu Val Val Gly Trp Thr Tyr Phe Ser Ala Phe	Trp Arg Arg Leu Val		
35		40	45
Leu Glu Asn Lys Leu Ile Pro Asp Ser Ala Gly	Tyr Ile Gly Glu Lys		
50		55	60
Phe Asn His Phe Leu Pro Asn Ser Ile Gly	Ile Arg Pro Val Ile Glu		
65		70	75
Tyr Leu Val Ser Thr Pro Asp Met Leu Trp	Trp Ala Met Val Ile Phe		
85		90	95
Thr Leu Val Glu Gly Ile Val Gly Leu Leu	Tyr Met Leu Gly Phe Phe		
100		105	110
Thr Arg Leu Met Ser Ile Gly Val Phe Ser Leu Ala	Thr Gly Ile Leu		
115		120	125
Leu Gly Ser Gly Trp Leu Gly Thr Thr Cys Leu Asp	Glu Trp Gln Ile		
130		135	140
Gly Ile Leu Gly Val Ala Ala Gly Phe Thr Ile Phe	Leu Ser Gly Gly		
145		150	155
Gly Lys Tyr Ser Val Asp His Leu Ile Glu Arg	Lys Phe Ser Leu Lys		

165	170	175
Lys Lys Ala Ala Trp Leu Ser Trp Leu Thr Ser Gly Glu Leu Pro Val		
180	185	190
Ser Ala Lys Arg Phe Ala Asn Val Ser Val Ala Gly Ala Ile Val Ile		
195	200	205
Phe Thr Leu Ser Leu Tyr Thr Asn Gln Glu Phe His Asn Gly Val Trp		
210	215	220
Gly Pro Leu His Asn Lys Ser Val Lys Pro Lys Ile Glu Ile Ser Asp		
225	230	235
Ala Gln Ile Glu Asn Asn Ser Leu Ser Phe Ser Val Tyr Arg Val Glu		
245	250	255
Gly Val Asp Val Tyr Gly Ser Phe Leu Ile Gly Ile Ser Leu Lys Asn		
260	265	270
Ala Asp Gly Asp Ile Val Leu Glu Lys Gly Glu Glu Leu Ala Asp		
275	280	285
Phe Pro Ile Gly Asn Ile Asp Asn Lys Tyr Ile Ala Arg Val Ala Pro		
290	295	300
Gly Lys His Ser Leu Val Ile Pro Leu Gly Ser Lys Ala Thr Leu Thr		
305	310	315
Ile Asp Asp Thr Ala Ile Gly Gly Leu Pro Lys Gly Lys Tyr Glu Leu		
325	330	335
Val Leu Thr Asp Ile Ser Gly Ile Thr Trp Lys Lys Glu Ile Ile His		
340	345	350

&lt;210&gt; 7303

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7303

Lys Pro Glu Leu Phe Leu Leu Pro Val Val Glu Ser Thr Tyr Lys Ser		
1	5	10
Ile Lys Ser Val Ile Met Asn Ile Ala Glu Gln Leu Asp Ala Val Ser		
20	25	30
Gly Thr Asn Arg Leu Val Leu Val Glu Phe Tyr Ala Asp Trp Ser Pro		
35	40	45
His Tyr Glu Trp Leu Glu Pro Val Val Arg Thr Tyr Glu Lys Gln Val		
50	55	60
Ser Glu Val Ile Lys Val Asn Ile Val Glu Asp Lys Ala Val Ala Asp		
65	70	75
Ser Phe Asn Ile Glu Thr Ala Pro Ala Phe Ile Leu Leu Gln Arg Gly		
85	90	95
His Glu Leu Trp Arg Gln Val Gly Glu Leu Thr Ile Asp Glu Leu Lys		
100	105	110
Leu Val Leu Glu Glu Phe Lys		
115		

&lt;210&gt; 7304

&lt;211&gt; 692

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7304

Thr Leu Ile Arg Met Lys Ser Asp Glu Ala Lys Arg Lys Lys Leu Tyr		
1	5	10
Val Glu Arg Asp Ile Ser Trp Met Tyr Phe Asn Gln Arg Ile Leu Leu		
20	25	30
Glu Ala Ala Arg Pro Glu Val Pro Leu Leu Glu Gln Leu Thr Phe Leu		
35	40	45

Gly Ile Tyr Ser Asn Asn Leu Asp Glu Phe Phe Arg Val Arg Val Ala  
 50 55 60  
 Thr Leu Asn Arg Ile Val Glu Tyr Asp Asp Lys Asn Ile Arg Glu Glu  
 65 70 75 80  
 Arg Asp Thr Ala Ala Arg Thr Leu Lys Gln Ile Gly Lys Leu His Asn  
 85 90 95  
 Gln Tyr Tyr Arg Gln Phe Glu Glu Thr Phe Ala Ser Ile Met Glu Lys  
 100 105 110  
 Leu Lys Gln Glu Asn Ile His Val Ile Lys Asp Thr Glu Leu Thr Pro  
 115 120 125  
 Glu Gln Glu His Phe Ile Thr Ser Leu Tyr Arg Asn Arg Leu Asn Gly  
 130 135 140  
 Ser Thr Asn Pro Leu Phe Leu Thr Lys Thr Ser Arg His Thr Asp Asp  
 145 150 155 160  
 Gln Thr Asp Glu Asp Ile Tyr Leu Ala Ile Arg Leu Leu Arg Lys Asp  
 165 170 175  
 Ser Glu Gly Lys Val Lys Met Lys Asp Tyr Ala Val Ile Gly Leu Pro  
 180 185 190  
 Thr Ala Glu Phe Gly Arg Phe Ile Arg Leu Pro Asp Ser Glu Gly Lys  
 195 200 205  
 Thr Tyr Leu Met Phe Leu Asp Asp Val Ile Arg Tyr Cys Leu Pro Met  
 210 215 220  
 Ile Phe Ile Gly Met Asn Tyr Thr Asp Tyr Glu Ala Tyr Thr Phe Lys  
 225 230 235 240  
 Phe Thr Lys Asp Ala Glu Met Glu Ile Asp Ser Asp Leu Arg Thr Gly  
 245 250 255  
 Val Leu Gln Lys Ile Ser Lys Gly Ile Lys Ser Arg Lys Arg Gly Glu  
 260 265 270  
 Pro Ile Arg Phe Val Tyr Asp Lys Glu Met Pro Lys Asp Leu Leu Arg  
 275 280 285  
 Lys Leu Thr Asp Arg Leu Asn Val Asp Lys Asn Asp Thr Arg Val Ala  
 290 295 300  
 Gly Gly Arg Tyr His Asn Phe Lys Asp Leu Met Lys Phe Pro Asp Cys  
 305 310 315 320  
 Gly Arg Ser Asp Leu Lys Tyr Pro Ala Trp Pro Pro Val Phe Lys Gln  
 325 330 335  
 Glu Leu Asn Gly Thr Glu Ser Ile Leu Arg Leu Ile Arg Lys Gln Asp  
 340 345 350  
 Arg Ser Leu His Tyr Pro Tyr Gln Ser Phe Asp Thr Val Ile Arg Val  
 355 360 365  
 Leu Arg Glu Ala Ala Ile Ser Lys Glu Val Lys Ser Ile Lys Met Thr  
 370 375 380  
 Leu Tyr Arg Leu Ala Lys Asp Ser Lys Val Val Lys Ala Leu Ile Cys  
 385 390 395 400  
 Ala Ala Gln Asn Gly Lys Lys Val Thr Val Ile Ile Glu Leu Leu Ala  
 405 410 415  
 Arg Phe Asp Glu Ala Ser Asn Ile Ser Trp Ser Lys Arg Met Gln Glu  
 420 425 430  
 Ala Gly Ile Lys Val Ile Phe Gly Val Glu Gly Leu Lys Ile His Ser  
 435 440 445  
 Lys Leu Val His Ile Gly Thr Arg Phe Gly Asp Leu Ala Cys Ile Ser  
 450 455 460  
 Thr Gly Asn Phe His Glu Gly Asn Ala Arg Met Tyr Thr Asp Phe Thr  
 465 470 475 480  
 Ile Met Thr Ala His Arg Ser Ile Val Arg Glu Val Asp Arg Val Phe  
 485 490 495  
 Asp Phe Ile Glu Lys Pro Tyr Leu Pro Val Asn Phe Lys Glu Leu Leu  
 500 505 510  
 Val Ser Pro Asn Asp Met Arg Lys Arg Leu Thr Ala Leu Ile Asn Gln

515	520	525
Glu Ile Lys Asn Lys Arg Gln Gly Lys Glu Ala Tyr Ile Leu Ala Lys		
530	535	540
Val Asn His Ile Thr Asp Arg Ile Leu Ile Gln Lys Leu Tyr Glu Ala		
545	550	555
Ser Thr Ala Gly Val Gln Thr Asp Leu Val Val Arg Gly Asn Cys Ser		560
565	570	575
Leu Val Thr Gly Ile Pro Gly Val Ser Asp Asn Ile Arg Ile Asn Gly		
580	585	590
Ile Ile Asp Arg Tyr Leu Glu His Pro Arg Ile Phe Ile Phe Ala Asn		
595	600	605
Gly Gly Glu Glu Lys Tyr Tyr Ile Gly Ser Ala Asp Trp Met Pro Arg		
610	615	620
Asn Leu Asp Asn Arg Ile Glu Val Leu Thr Pro Val Tyr Asp Lys Val		
625	630	635
Ile Gln Ala Glu Leu Lys Arg Val Val Cys Tyr Gly Leu Arg Asp Thr		640
645	650	655
Ala Lys Gly Arg Ile Val Asp Gly Ser Gly Glu Asn Lys Thr Trp Glu		
660	665	670
Asn Ser Asp Ala Pro Phe Arg Ser Gln Glu Glu Leu Tyr Lys Tyr Tyr		
675	680	685
Lys Glu Ser Glu		
690		

&lt;210&gt; 7305

&lt;211&gt; 75

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7305

Asn Thr Thr Arg Thr Ser Trp Gln Phe Arg Leu Arg Ser Leu Arg Ala		
1	5	10
Arg Ser Thr Ser Ile Thr Cys Ser Ala Phe Ser Phe Gly Ser Ala Lys		15
20	25	30
Arg Ala Ser Val Ser Ser Leu Ser Leu Met Val Ser Pro Val Arg Arg		
35	40	45
Val Val Pro Ala Ile Gly Ser Ile Tyr Ala Cys Pro Leu Ser Thr Leu		
50	55	60
Gln Cys Val Ser Gly Asp Glu Pro Lys Met Arg		
65	70	75

&lt;210&gt; 7306

&lt;211&gt; 547

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7306

Phe Phe Leu Arg Ala Glu Arg Cys Ile Ala Val Phe Pro Ser Leu Val		
1	5	10
Leu Ala Ala Ser Val His Asp Ser Pro Phe Gly Arg Val Ala Lys Ser		15
20	25	30
Val Ala Asp His Thr Phe Gln Phe Cys Leu Tyr His Phe Val Val Tyr		
35	40	45
Arg Arg Lys His Phe Asp Ala Val Val Gln Ile Ala Gly His Pro Val		
50	55	60
Gly Arg Ser Tyr Ile Val Phe Phe Pro Ser Val Gly Glu Asp Glu		
65	70	75
Asp Ala Arg Met Phe Gln Ile Thr Val Asp Asp Ala Val Asp Pro Asp		80
85	90	95

Val Val Ala Asp Ser Arg Asp Ala Gly His Gln Gly Ala Val Ala Pro  
 100 105 110  
 Asp His Gln Val Cys Leu Tyr Thr Gly Cys Arg Ser Phe Val Glu Phe  
 115 120 125  
 Leu Tyr Gln Tyr Pro Val Gly Asn Met Val His Phe Gly Lys Asp Val  
 130 135 140  
 Cys Leu Phe Ser Leu Ser Leu Val Leu Asp Phe Leu Val Asp Gln Gly  
 145 150 155 160  
 Cys Gln Pro Phe Ala His Ile Val Gly Arg His Glu Gln Phe Leu Glu  
 165 170 175  
 Val His Arg Glu Val Gly Leu Leu Tyr Glu Val Glu Tyr Pro Val Tyr  
 180 185 190  
 Phe Pro His Asn Gly Ala Met Cys Cys His Asp Gly Glu Ile Gly Ile  
 195 200 205  
 His Pro Cys Val Ser Phe Met Lys Ile Ser Gly Ala Asp Thr Gly Gln  
 210 215 220  
 Val Ala Lys Pro Cys Ser Asp Met Tyr Gln Leu Gly Val Asp Phe Gln  
 225 230 235 240  
 Thr Phe His Ser Glu Tyr His Phe Asp Ser Cys Leu Leu His Ala Phe  
 245 250 255  
 Ala Pro Ala Asp Val Gly Arg Phe Val Glu Thr Gly Glu Gln Phe Asp  
 260 265 270  
 Asp Asn Arg Tyr Phe Phe Ser Val Leu Cys Gly Ala Asp Gln Ser Phe  
 275 280 285  
 His Tyr Leu Arg Val Phe Gly Gln Ala Ile Glu Ser His Leu Asp Ala  
 290 295 300  
 Phe His Phe Phe Ala Asp Gly Cys Leu Ala Gln Tyr Thr Asp His Gly  
 305 310 315 320  
 Ile Glu Arg Leu Ile Gly Val Met Gln Arg Pro Val Leu Phe Pro Asp  
 325 330 335  
 Gln Ser Gln Asp Thr Phe Arg Pro Val Gln Phe Leu Phe Glu Asp Gly  
 340 345 350  
 Arg Pro Gly Arg Ile Phe Gln Val Gly Pro Ser Ala Val Gly Lys Leu  
 355 360 365  
 His Gln Val Phe Glu Val Met Ile Ala Pro Ala Cys Tyr Thr Gly Val  
 370 375 380  
 Val Phe Ile His Val Glu Ala Val Gly Gln Leu Ser Gln Gln Ile Phe  
 385 390 395 400  
 Arg His Leu Phe Val Ile Asp Glu Thr Asp Arg Phe Ala Pro Phe Pro  
 405 410 415  
 Ala Phe Asp Pro Leu Arg Tyr Phe Leu Glu His Thr Cys Thr Gln Ile  
 420 425 430  
 Thr Val Tyr Leu His Phe Gly Val Phe Gly Glu Leu Glu Ser Val Ser  
 435 440 445  
 Phe Ile Val Arg Ile Ile His Ala Tyr Glu Asp His Arg Gln Ala Val  
 450 455 460  
 Ala Asp Asn Val Val Gln Lys His Gln Ile Gly Phe Ala Phe Arg Ile  
 465 470 475 480  
 Arg Gln Ala Asp Glu Ala Ser Glu Leu Gly Gly Glu Pro Asp Asp  
 485 490 495  
 Gly Ile Ile Phe His Phe His Phe Ser Leu Thr Val Phe Ala Gln Gln  
 500 505 510  
 Ala Asp Gly Lys Val Asp Val Phe Ile Gly Leu Val Val Arg Met Thr  
 515 520 525  
 Gly Arg Phe Ser Lys Lys Glu Arg Ile Gly Arg Pro Ile Gln Pro Val  
 530 535 540  
 Pro Val Glu  
 545

<210> 7307  
<211> 342  
<212> PRT  
<213> B.fragilis

<400> 7307

Pro	Arg	Met	Arg	Asn	Ile	Glu	Lys	Thr	Asn	Tyr	Met	Lys	Gln	Ile	Leu
1					5				10						15
Tyr	Lys	Leu	Phe	Glu	His	Gln	Tyr	Leu	Gly	Arg	Asp	Glu	Ala	Arg	Thr
					20				25						30
Ile	Leu	Gln	Asn	Ile	Ala	Gln	Gly	Lys	Tyr	Asn	Asp	Ala	Gln	Val	Ala
					35				40						45
Ser	Leu	Ile	Thr	Val	Phe	Leu	Met	Arg	Asn	Ile	Ser	Val	Glu	Glu	Leu
					50				55						60
Cys	Gly	Phe	Arg	Asp	Ala	Leu	Leu	Glu	Met	Arg	Val	Pro	Val	Asp	Leu
					65				70						80
Ser	Glu	Phe	Ala	Pro	Ile	Asp	Ile	Val	Gly	Thr	Gly	Gly	Asp	Gly	Lys
					85				90						95
Asn	Thr	Phe	Asn	Ile	Ser	Thr	Ala	Ala	Cys	Phe	Thr	Val	Ala	Gly	Ala
					100				105						110
Gly	Phe	Pro	Val	Val	Lys	His	Gly	Asn	Tyr	Gly	Ala	Thr	Ser	Val	Ser
					115				120						125
Gly	Ala	Ser	Asn	Val	Met	Glu	Gln	His	Gly	Val	Lys	Phe	Thr	Asp	His
					130				135						140
Thr	Asp	Arg	Leu	Arg	Arg	Ser	Met	Glu	Lys	Cys	Asn	Ile	Ala	Tyr	Leu
					145				150						160
His	Ala	Pro	Leu	Phe	Asn	Pro	Ala	Leu	Lys	Ala	Val	Ala	Pro	Ile	Arg
					165				170						175
Lys	Ala	Leu	Ala	Val	Arg	Thr	Phe	Phe	Asn	Met	Leu	Gly	Pro	Leu	Val
					180				185						190
Asn	Pro	Val	Ile	Pro	Thr	Tyr	Gln	Leu	Leu	Gly	Val	Tyr	Asn	Leu	Pro
					195				200						205
Leu	Leu	Arg	Leu	Tyr	Thr	Tyr	Tyr	Gln	Glu	Ser	Ala	Thr	Arg	Phe	
					210				215						220
Ala	Val	Val	His	Ser	Leu	Asp	Gly	Tyr	Asp	Glu	Ile	Ser	Leu	Thr	Asp
					225				230						240
Glu	Phe	Lys	Val	Ala	Thr	Cys	Gly	Asn	Glu	Lys	Ile	Tyr	Thr	Pro	Glu
					245				250						255
Ser	Leu	Gly	Phe	Asn	Arg	Cys	Arg	Glu	Ser	Glu	Leu	Asp	Gly	Gly	Asn
					260				265						270
Thr	Pro	Glu	Asp	Ala	Ala	Arg	Ile	Phe	Asp	Ala	Val	Met	Glu	Gly	Thr
					275				280						285
Ala	Thr	Glu	Ala	Gln	Lys	Asn	Val	Val	Ile	Val	Asn	Ala	Ala	Phe	Ala
					290				295						300
Ile	Arg	Val	Ile	Cys	Pro	Glu	Lys	Pro	Ile	Glu	Glu	Cys	Ile	Ala	Leu
					305				310						320
Ala	Arg	Glu	Ser	Leu	Glu	Ser	Gly	Lys	Ala	Arg	Glu	Thr	Leu	Lys	Lys
					325				330						335
Phe	Val	Glu	Leu	Asn	Gly										
					340										

<210> 7308  
<211> 151  
<212> PRT  
<213> B.fragilis

<400> 7308

Asn	Lys	Asn	Arg	Ile	Ala	Val	Met	Lys	Ser	Met	Lys	Phe	Ile	Gly	Cys
1					5				10						15

Leu Tyr Leu Leu Ala Leu Leu Ser Ala Cys Gly Ser Arg Thr Ser Asp  
   20                   25                   30  
 Tyr Asp Ala Thr Gly Thr Phe Glu Ala Thr Glu Val Leu Val Ser Ala  
   35                   40                   45  
 Glu Ala Ser Gly Lys Leu Leu Tyr Phe His Val Glu Glu Gly Thr Arg  
   50                   55                   60  
 Leu Lys Ala Gly Glu Glu Val Gly Leu Ile Asp Thr Leu Gln Leu Tyr  
   65                   70                   75                   80  
 Leu Lys Lys Leu Gln Leu Gln Ala Ser Met Lys Ser Val Glu Ser Gln  
   85                   90                   95  
 Arg Pro Asp Val Asn Lys Gln Ile Ala Ala Thr Arg Gln Gln Ile Ala  
   100                 105                 110  
 Thr Ala Arg Arg Glu Lys Arg Arg Val Glu Asn Leu Leu Lys Ala Gly  
   115                 120                 125  
 Ala Ala Asn Gln Lys Gln Leu Asp Asp Trp Gly Leu His His Gly Gly  
   130                 135                 140  
 Gly Arg Tyr Arg Val His Gly  
   145                 150

&lt;210&gt; 7309

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7309

Met Tyr Arg Leu Leu Ile His Ile Arg Glu Ser His Arg Glu Phe Arg  
 1                   5                   10                   15  
 Gln Gln Phe Ile Ala Gly Gly Ile Val Ser Glu Lys Ser Ile Tyr Thr  
   20                 25                 30  
 Gly Met Glu Glu Ile Glu Ile Ala Thr Val Pro Ile Arg Glu Asn Leu  
   35                 40                 45  
 Ser Val Glu Val His His Leu Arg Cys Gly Ser Cys Arg Asn Leu Val  
   50                 55                 60

&lt;210&gt; 7310

&lt;211&gt; 303

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7310

Ile Asp Ile Arg His Ala Phe Tyr Lys Asn Lys Ser Gln Lys Asp Ile  
 1                 5                 10                 15  
 Ser Leu Cys Ser Asn Asn Ala Lys Gly Tyr Ile Asn Gln Pro Ile Leu  
   20                 25                 30  
 Ile Lys Met Ala Arg Ala Ile Gln Phe Thr Lys Met His Gly Thr Gly  
   35                 40                 45  
 Asn Asp Tyr Ile Tyr Val Asn Thr Leu Arg Phe Pro Ile Ala Arg Pro  
   50                 55                 60  
 Glu Lys Ala Ala Ile Glu Trp Ser Ala Tyr His Thr Gly Ile Gly Ser  
   65                 70                 75                 80  
 Asp Gly Leu Val Leu Ile Gly His Ser Asp Lys Ala Asp Phe Ser Met  
   85                 90                 95  
 Arg Ile Phe Asn Ala Asp Gly Ser Glu Ala Met Met Cys Gly Asn Ala  
   100                105                110  
 Ser Arg Cys Ile Gly Lys Tyr Leu Tyr Glu Tyr Gly Leu Thr Ser Lys  
   115                120                125  
 Asn Val Ile Thr Leu Asp Thr Leu Ser Gly Ile Lys Ile Leu Glu Leu  
   130                135                140  
 His Leu Glu Gly Arg Thr Val Glu Thr Val Thr Val Asp Met Gly Ile

145	150	155	160
Pro Leu Glu Thr Gly	Thr Ile Asp Phe Asp Gly Glu Phe Pro Phe Leu		
165	170	175	
Ser Thr Gln Val Ser Met Gly Asn Pro His Leu Val Thr Phe Val Asp			
180	185	190	
Asp Ile Arg Ile Val Asn Leu Ser Glu Met Gly Pro Lys Leu Glu Lys			
195	200	205	
His Pro Leu Phe Pro Asp Arg Thr Asn Val Glu Phe Ala Gln Ile Thr			
210	215	220	
Gly Glu Asn Thr Ile Arg Met Arg Val Trp Glu Arg Gly Ser Gly Ile			
225	230	235	240
Thr Gln Ala Cys Gly Thr Gly Ala Cys Ala Thr Ala Val Ala Ala His			
245	250	255	
Leu Thr Gly Arg Thr Gly Arg Thr Val Asn Val Val Met Asp Gly Gly			
260	265	270	
Thr Leu Thr Ile Glu Trp Asp Glu Ala Thr Gly His Ile Ser Met Thr			
275	280	285	
Gly Pro Ala Val Lys Val Phe Asp Gly Thr Ile Glu Leu Arg Glu			
290	295	300	

&lt;210&gt; 7311

&lt;211&gt; 60

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7311

Leu Tyr Arg Ser Asp Ala Thr His Gln Glu Pro Thr Val Met Thr Asp			
1	5	10	15
Ser His Val Thr Thr Asp Tyr Thr Asp Phe His Arg Leu Ile Ile Tyr			
20	25	30	
Phe Ile Glu Asn Gln Ile Lys Thr Ser Val Leu Ile Cys Val Ile Cys			
35	40	45	
Gly Glu Tyr Leu Pro His Leu Ser Ser Ile Ile Arg			
50	55	60	

&lt;210&gt; 7312

&lt;211&gt; 66

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt;

(35), (36), (37), (38), (39), (40), (41), (42), (43), (44), (45), (46), (47), (48), (50), (51),  
(57), (60), (61), (63)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7312

Glu Tyr Asn Gly Asn Asn Ala Ile Gly Pro Asn Gly Tyr Thr Phe Leu			
1	5	10	15
Ile Tyr Phe Gly Phe Phe Arg Leu Gln Ala Ala Tyr Lys Lys Lys Lys			
20	25	30	
Gly Gly Xaa			
35	40	45	
Asn Xaa Xaa Pro Pro Leu Phe Thr Xaa Ile Ser Xaa Xaa Phe Xaa Pro			
50	55	60	
Lys Asn			
65			

&lt;210&gt; 7313

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7313

Thr	Gly	Cys	Gly	Thr	Arg	Arg	Gln	Cys	Thr	Lys	Phe	Asn	Gly	Thr	Ser
1				5				10						15	
Tyr	Ile	Thr	Gln	Arg	Ala	Ala	Glu	Ala	Ile	Tyr	Thr	Pro	Glu	Gly	Lys
					20				25					30	
Glu	Gln	Ile	Gln	Glu	Thr	Ile	Asn	Tyr	Tyr	Met	Thr	Asn	Ala	Arg	Ile
					35			40					45		
Met	Lys	Glu	Gly	Leu	Glu	Ser	Thr	Gly	Leu	Lys	Val	Tyr	Gly	Gly	Val
	50				55					60					
Asn	Ala	Pro	Tyr	Leu	Trp	Val	Lys	Asn	Ser	Lys	Thr	Glu	Gln	Ala	Arg
	65				70				75					80	
Gly	Ala	Ser	Leu	Thr	Arg	Cys	Tyr	Thr	Lys	Thr	Thr				
				85					90						

&lt;210&gt; 7314

&lt;211&gt; 210

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7314

Asn	Trp	Lys	Gly	Gly	Cys	Glu	Lys	Met	Lys	Asn	Asn	Glu	Ser	Ile	Arg
1						5			10					15	
Ile	Ala	Val	Ala	Glu	Thr	Ser	Val	Ile	Ile	Arg	Ser	Gly	Leu	Thr	Leu
					20			25					30		
Ala	Leu	Lys	Arg	Leu	Pro	Asn	Leu	Lys	Ile	Gln	Pro	Val	Glu	Leu	Leu
					35			40					45		
Ser	Val	Glu	Ala	Leu	Asn	Asp	Cys	Leu	Arg	Thr	Gln	Phe	Pro	Asp	Ile
					50			55			60				
Leu	Val	Val	Asn	Pro	Thr	Phe	Gly	Asp	Phe	Phe	Asp	Val	Ala	Arg	Phe
					65			70			75			80	
Arg	Glu	Glu	Thr	Ala	Gly	Lys	Gly	Ile	Arg	Val	Val	Ala	Leu	Val	Ser
					85				90				95		
Ser	Phe	Ile	Asp	Ala	Ser	Leu	Leu	Ser	Lys	Tyr	Asp	Ala	Ser	Phe	Ser
					100			105					110		
Ile	Phe	Asp	Asp	Leu	Glu	Ala	Leu	Ala	Asn	Lys	Ile	Asn	Leu	Leu	Gln
					115			120			125				
Asn	Ile	Glu	Pro	Glu	Glu	Glu	Asp	Ser	Gln	Glu	Asn	Leu	Ser	Gln	
					130			135			140				
Arg	Glu	Lys	Glu	Ile	Val	Ile	Cys	Val	Val	Lys	Gly	Met	Thr	Asn	Lys
					145			150			155			160	
Glu	Ile	Ala	Glu	Lys	Leu	Phe	Leu	Ser	Ile	His	Thr	Val	Ile	Thr	His
					165				170			175			
Arg	Arg	Asn	Ile	Ser	Lys	Lys	Leu	Gln	Ile	His	Ser	Ala	Ala	Gly	Leu
					180			185			190				
Thr	Ile	Tyr	Ala	Ile	Val	Asn	Lys	Leu	Val	Glu	Leu	Ser	Asp	Val	Lys
					195			200			205				
Asp	Leu														
	210														

&lt;210&gt; 7315

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7315

Asn Asn His Ile Ser Val Phe Thr Thr Met Lys Thr His Lys Leu Leu  
 1 5 10 15  
 Phe Val Thr Leu Leu Gly Thr Val Cys Ile Ser Cys Gly His Pro Ser  
 20 25 30  
 His Lys Thr Gly Ser Glu Lys Glu Ala Leu Gly Lys Leu Leu Phe His  
 35 40 45  
 Asp Thr Ser Leu Ser Glu Pro Pro Gly Gln Ser Cys Ala Thr Cys His  
 50 55 60  
 Ala Ser Ser Lys Gly Phe Ala Asp Glu Gln Ala Arg Ala Ile Ser Glu  
 65 70 75 80  
 Gly Ala Val Gln Gly Leu Phe Ser Gln Arg Asn Ser Met Ser Val Cys  
 85 90 95  
 Tyr Ala Ala Phe Val Pro Glu Leu His Tyr Asp Asp Asp Glu Asn  
 100 105 110  
 Tyr Val Gly Leu Phe Trp Asp Gly Arg Ser Pro Ser Leu Gln Asp  
 115 120 125  
 Gln Ala Gly Ile Pro Leu Leu Asn Pro Val Glu Met Gly Asn Arg Asp  
 130 135 140  
 Lys Gln Met Val Ala Glu Lys Val Lys Arg Thr Pro Tyr Tyr Asp Arg  
 145 150 155 160  
 Ile Val Gln Ile Tyr Gly Glu Thr Glu His Ala Asp Ser Leu Phe Ala  
 165 170 175  
 His Val Thr Asp Ala Leu Ala Ala Tyr Gln Ala Ser Lys Glu Ile Asn  
 180 185 190  
 Pro Phe Thr Ser Lys Tyr Asp Ala Tyr Lys Lys Gly Asn Tyr Gln Leu  
 195 200 205  
 Thr Glu Gln Glu Ala Arg Gly Lys Glu Leu Phe Lys Asp Lys Gly Gln  
 210 215 220  
 Cys Ala Glu Cys His Ile Leu Asp Arg Asp Lys Arg Ala His Arg Thr  
 225 230 235 240  
 Leu Phe Thr Asp His Thr Tyr Asp Asn Leu Gly Ile Pro Lys Leu Pro  
 245 250 255  
 Asp His Pro His Tyr Lys Val Ala Ala Glu Tyr Phe Leu Leu Ala Ala  
 260 265 270  
 Asp Ser Val Asp Leu Gly Leu Gly Ala Ile Val Asn Ala Glu Ser Glu  
 275 280 285  
 Asn Gly Lys Phe Arg Val Pro Thr Leu Arg Asn Val Glu Leu Thr Ala  
 290 295 300  
 Pro Tyr Gly His Asn Gly Tyr Phe Lys Thr Leu Glu Glu Ile Val His  
 305 310 315 320  
 Phe Tyr Asn Val Arg Asp Val Ser Asp Glu Phe Pro Pro Ala Glu Tyr  
 325 330 335  
 Pro Ala Thr Val Asn Lys Glu Glu Leu Gly Asn Leu Gly Leu Thr Gln  
 340 345 350  
 Glu Glu Glu Ala Asp Ile Val Ala Phe Met Lys Thr Leu Thr Asp Gly  
 355 360 365  
 Tyr Met Lys Val His Lys Ser Glu Lys Arg  
 370 375

&lt;210&gt; 7316

<211> 143  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7316

Ala Tyr Ser Ile His Ile Lys Arg Thr Asn Ser Lys Thr Asn Asn Ile  
 1 5 10 15  
 Thr Leu Thr Asn His Ile Met Arg Lys Leu Ile Leu Val Asp Asp

20	25	30
Lys Glu Thr Ile Ala Lys Val Ala Ser Ile Tyr Leu Gly	Lys Asp Tyr	
35	40	45
Asp Ile Gln Tyr Phe Pro Asp Pro Ile His Ala Leu Glu Trp	Leu His	
50	55	60
Glu Gly Lys Thr Pro Asp Leu Ile Ser Asp Ile Arg Met Pro	Leu	
65	70	75
Met Arg Gly Asp Glu Phe Leu His Tyr Leu Lys Cys Asn Glu	Leu Phe	
85	90	95
Lys Asp Ile Pro Val Ile Met Leu Ser Ser Glu Glu Ser Thr	Ser Glu	
100	105	110
Arg Ile Arg Leu Leu Gln Glu Gly Ala Val Asp Tyr Ile Leu	Lys Pro	
115	120	125
Phe Asn Pro Met Glu Leu Lys Ile Arg Val Lys Lys Ile Ile	Glu	
130	135	140

&lt;210&gt; 7317

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7317

Lys Lys Asn Val Ser Thr Asn Leu Lys Thr Pro Thr Asn Val	Met Ala		
1	5	10	15
Ile Glu Arg Lys Val Pro Gly Glu Ile Arg Ile Phe Leu Asn	His Val		
20	25	30	
Tyr Glu Phe Lys Lys Gly Val Arg Asn Met Val Leu Tyr Thr	Met Asn		
35	40	45	
Lys Glu His Glu Ala Phe Ala Ile Arg Arg Leu Glu Arg Gln	Asn Ile		
50	55	60	
Ser Tyr Leu Ile Gln Glu Val Asn Ala Asn Lys Ile Asn Leu	Phe Phe		
65	70	75	80
Gly Lys Ala Glu Cys Met Asp Ala Ile Arg His Ile Ile Ile	Arg Pro		
85	90	95	
Leu Asn His Leu Thr Pro Glu Glu Asp Phe Ile Leu Gly Ala	Met Leu		
100	105	110	
Gly Tyr Asp Ile Cys Gln Gln Cys Lys Arg Tyr Cys Asn Lys	Lys Gly		
115	120	125	
Asn Ile Lys Ile Ala Gly			
130			

&lt;210&gt; 7318

&lt;211&gt; 321

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7318

Asn Met Leu Phe Phe Ile Ser Asp Leu Leu Ile Asn Arg Ile	Phe Tyr		
1	5	10	15
Leu Ser Leu Pro Cys Asp Lys Asn Arg Phe Met Glu Lys Ile	Lys Pro		
20	25	30	
Leu Glu Leu Ala Leu Asp Leu Leu Lys His Ser Asn Ile Val	Arg Asn		
35	40	45	
Asn Glu Tyr Arg Phe Val Thr Pro Asp Phe Gly Ile Val Ile	Ser Phe		
50	55	60	
Thr His Met Glu Ser Arg Leu Phe Arg Leu Gly Gln Pro	Tyr Arg Leu		
65	70	75	80
Lys Glu Gly Arg Ile Ile Arg Gly Leu Arg Gly Lys Ala Arg	Ile Thr		
85	90	95	

Ile Asn Leu Ile Glu Tyr Asn Ile Tyr Pro Gln Thr Ile Ala Thr Phe  
 100 105 110  
 Leu Pro Gly Ser Ile Ile Glu Leu Leu Glu Phe Thr Pro Asp Cys Asp  
 115 120 125  
 Phe Gln Met Ile Ala Ala Asp Lys Asp Phe Leu Pro Leu Leu Arg Gly  
 130 135 140  
 Asp Gln Leu Phe Glu Ser His Thr Arg Gln Asn Leu Val Met Gln Val  
 145 150 155 160  
 Thr Asp Thr Glu Trp Lys Leu Ser Asp Ala Tyr Phe Thr Leu Ile Trp  
 165 170 175  
 Asp Thr Val Gln Glu Val Pro Phe Arg Arg Glu Val Val Gln Tyr Leu  
 180 185 190  
 Leu Ala Ala Leu Leu His Asn Ile Lys Tyr Ile Arg Thr Glu Glu Ala  
 195 200 205  
 Asn Asp Thr Ser Arg Arg Phe Ser His Gln Glu Glu Ile Phe Trp Arg  
 210 215 220  
 Phe Ile Ala Leu Val Asn Glu Phe Ser Lys Asn Glu Arg Thr Val Gly  
 225 230 235 240  
 Phe Tyr Ala Asp Lys Leu Cys Leu Thr Pro Arg Tyr Leu Asn Thr Leu  
 245 250 255  
 Ile Arg Gln Val Ser His Gln Thr Val Met Glu Trp Ile Asn Gln Ser  
 260 265 270  
 Val Ile Leu Glu Ala Lys Val Leu Leu Lys His Ser Asn Leu Leu Val  
 275 280 285  
 Tyr Gln Ile Ser Asp Glu Leu His Phe Pro Asn Pro Ser Phe Phe Cys  
 290 295 300  
 Lys Phe Phe Lys Arg Met Thr Gly Met Thr Pro Gln Glu Tyr Gln Lys  
 305 310 315 320  
 Arg

&lt;210&gt; 7319

&lt;211&gt; 78

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7319

Arg Ala Pro Pro Glu Met Arg Leu Trp Lys Leu Ser Ile Trp Glu Asp  
 1 5 10 15  
 Gly Tyr Thr Ile Pro Cys Val Cys Tyr Tyr Ile Glu Lys Glu Asp Val  
 20 25 30  
 Tyr Glu Leu Val Asp Gly Tyr His Arg Tyr Lys Val Met Met Thr Ser  
 35 40 45  
 Pro Arg Ile Tyr Lys Arg Glu Asn Gly Leu Leu Pro Val Thr Val Ile  
 50 55 60  
 Arg Lys Asp Leu Ala Glu Arg Met Ser Leu Tyr His Pro Ser  
 65 70 75

&lt;210&gt; 7320

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7320

Cys Asn Ile Ala Pro Asn Thr Lys Ile Ser Gly Gly Lys Arg Ile Ser  
 1 5 10 15  
 Ser His Val Pro His Arg Arg Asn Asp Val Gly Leu Ile Phe Arg Ser  
 20 25 30  
 Val Ala Ser Ser Leu Ala Asn Ala Lys Asn Gln Leu Gly Asn Phe Tyr

35	40	45
Arg Arg Ile Arg Ser Arg Ala Gly Gly Lys Ala Ala Val Ile Ala Thr		
50	55	60
Ala His Lys Val Thr Glu Ile Phe Phe Ala Met Val Ala Asn Gln Thr		
65	70	75
Pro Tyr Asn Pro Glu Lys Val Gly Ile Asp Glu Lys Val Leu Leu Glu		80
85	90	95
Lys Arg Ile Thr Arg Tyr Lys Arg Glu Leu Glu Arg Ile Thr Gly Met		
100	105	110
His Ile Glu Ile Gly Asn Ala Cys Val Pro		
115	120	

&lt;210&gt; 7321

&lt;211&gt; 90

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7321

Leu Pro Gly Tyr Ile Asp His Gly Gly Thr Gly Ile Gly Lys Pro Ser			
1	5	10	15
Lys Leu Gln Gly Phe Lys Gln Leu Leu Leu Thr Asp Ile Met Gln Ala			
20	25	30	
Asn Gln Arg Leu Ala Ala Val Ile Leu Ala Asp Leu Pro Lys Pro Asp			
35	40	45	
Val Ile Leu Thr Leu Lys Glu Ala Ala Arg Ile Leu Ala Gly Gly Phe			
50	55	60	
Tyr Leu Val Gly Gly Lys Arg Asp Ile Ile His Arg Ala Val Ile Phe			
65	70	75	80
Gly Thr His Ile Gly Thr Val Arg His Ile			
85	90		

&lt;210&gt; 7322

&lt;211&gt; 1045

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7322

Val Asn Lys Tyr Phe Ser Leu Ile Thr Asn Gln Val Thr Tyr Leu Phe			
1	5	10	15
Phe His Gly Met Glu Gln Ile Ser Glu Tyr Leu Phe Thr Thr Glu Glu			
20	25	30	
Gln Ala Val Ile Ala Arg Ser Lys Ala Glu Gly Ser Tyr Met Lys Ala			
35	40	45	
Pro Asn Gly Gln Ala Thr Asn Leu Asn Glu Lys Gln Trp Ala Gln Val			
50	55	60	
Arg Thr Arg Ala Phe Arg Asp Trp Phe Gly Asp Trp Glu Asn Cys Pro			
65	70	75	80
Asp Glu Ala Ser Lys Val Arg Asp Ala Asn Gly Glu Pro Leu Val Val			
85	90	95	
Tyr His Gly Ser Arg Glu Asn Phe Tyr Glu Phe Lys Arg Trp Thr Asp			
100	105	110	
Gly Leu Ile Asn Ser Gly His Phe Phe Ser Pro Asp Arg Lys Asn Ala			
115	120	125	
Leu Gly Tyr Gly Gly Asn Ile Tyr Asp Val Tyr Leu Asn Leu Arg Asn			
130	135	140	
Pro Leu Glu Val Asp Ala Gln Gly Ala Asn Phe Ser Ser Ile Glu Tyr			
145	150	155	160
Gly Gly Glu Lys Val Ala Ala Ser Asp Leu Gly Asn Leu Ala Glu Met			
165	170	175	

Glu Gly Tyr Asp Gly Val Val Ile Ser Asp Val Ala Asp Ser Ala Asp  
     180                         185                         190  
 Met Gly Ser Glu Asn Asp Arg Thr Val Asp Tyr Ile Ser Phe Ala Ala  
     195                         200                         205  
 Asn Gln Ile Lys Ser Ala Ser Gln Asn Thr Gly Ser Phe Leu Glu Ser  
     210                         215                         220  
 Gln Asp Asp Ile Arg Phe Arg Glu Ile Ser Gln Asp Asp Gly Gly Lys  
     225                         230                         235                         240  
 Ser Leu Val Gly Leu His Asn Ile Ser Glu Glu Lys Leu Leu Lys Ala  
     245                         250                         255  
 Leu Lys Leu Gly Gly Leu Ala Asn Pro Ser Ala Ala Val Ile Asp Ile  
     260                         265                         270  
 Ala Arg Gln Ser His Glu Glu Tyr Gly Glu Ile Ser Leu Val Leu Pro  
     275                         280                         285  
 Ser Ser Met Ile Asp Lys Arg Thr Gly Arg Asn Ala Gly Thr Phe Ser  
     290                         295                         300  
 Gly Asp Ala Trp Thr Pro Val Tyr Pro Gln Ile Glu Arg Gln Phe Ser  
     305                         310                         315                         320  
 Gly Asp Gly Ser Gly Arg Val Arg Asp Ala Ile Ser Arg Leu Pro Gln  
     325                         330                         335  
 Glu Met Gln Pro Asp Val Arg Ser Ala Trp Asn Asn Tyr Met Asp Gly  
     340                         345                         350  
 Arg Asp Glu Gly Ser Ala Phe Ala Tyr Gln Phe Leu Tyr Glu Arg Gly  
     355                         360                         365  
 Glu Ala Pro Glu Phe Arg Lys Val Glu Pro Leu Phe Gly Glu His Leu  
     370                         375                         380  
 Arg Asn Arg Ile Ser Ala Ile Asp Ala Leu Asp Asn Tyr Asp Glu Arg  
     385                         390                         395                         400  
 Asn Thr Ala Leu Leu Glu Val Tyr Ile Glu Glu Asn Phe Gly Gly Asp  
     405                         410                         415  
 Gln Thr Lys Phe Lys Asp Tyr Ile Glu Thr Arg Lys Arg Val Leu Gln  
     420                         425                         430  
 Asp Lys Ile Gln Ala Phe Pro Glu Gln Lys Gln Lys Gly Leu Ala Tyr  
     435                         440                         445  
 Arg Lys Ala Val Gln Lys Leu Asn Asp Ile Glu Glu Arg Gly Tyr Glu  
     450                         455                         460  
 Tyr Ser Ser Val Gln Asp Phe Tyr Asp Arg Val Lys Thr Asp Ile Arg  
     465                         470                         475                         480  
 Gln Ala Gly Ser Val Asp Thr Tyr His Thr Leu Gln Asp Ala Leu Asp  
     485                         490                         495  
 Lys Ile Asn Gly Ser Glu Ala Leu Ser Arg Gln Tyr Ala Glu Trp Lys  
     500                         505                         510  
 Glu Ser Leu Ala Asp Lys Tyr Gly Ile Lys Glu Val Leu Phe Lys Gly  
     515                         520                         525  
 Tyr Thr Pro Asp Gly Ile Arg Ile Tyr Leu Pro His Thr Leu Glu Asn  
     530                         535                         540  
 Val Ser Gly Leu Met Lys Gln Gln Gly Leu Ala Ala Ala Thr Gly Trp  
     545                         550                         555                         560  
 Gly Gly Ser Phe Ser Lys Phe Ala Ala Ala Leu Met Lys Pro Val Gly  
     565                         570                         575  
 Thr Leu Asp Gly Ile Arg Arg Gln Lys Gly Lys Leu Ile Thr Asp His  
     580                         585                         590  
 Ser Asp Leu Glu Ala Phe Arg Asp Lys Trp Gln Glu Val Tyr Phe Asp  
     595                         600                         605  
 Leu Gly Ile Lys Leu Asn Pro Gly Gly Thr Phe Asp Asp Thr Gly  
     610                         615                         620  
 Leu Tyr Arg Val Glu Asp Ile Ala Leu Lys Pro Asp Pro Gly Ser Phe  
     625                         630                         635                         640  
 Ala Lys Arg Glu Tyr Gly Val Glu Leu Thr Arg Glu Asp Val Arg Gln

645	650	655
Leu Lys Glu Met Val Asp Ala Ile Gln Asn Glu Cys Pro Ala Met Tyr		
660	665	670
Phe Glu Thr Lys Phe Glu Arg Pro Val Tyr Leu Asn Glu Phe Val Ala		
675	680	685
Ala Ile Val Pro Glu Asn Val Asn Glu Asp Val Ser Lys Ser Ile Arg		
690	695	700
Glu Ser Gly Leu Gln Val Phe Val Tyr Lys Pro Lys Asp Glu Ser Ser		
705	710	715
Arg Asn Glu Ala Val Lys Leu Ala Ser Glu Ile Lys Gly Val Arg Phe		
725	730	735
Arg Leu Ala Gly Gly Thr Gly Ala Phe Thr Pro Ala Cys Thr Ala Ser		
740	745	750
Gly Gln Val Phe Leu Ser Gly Asp Glu Arg Met Ala Glu Leu Ser Arg		
755	760	765
His Ala Val Phe Leu Ala Arg Lys Gln His Ile Pro Val Asn Ile Ile		
770	775	780
His Ser Ile Gly Glu Val Asp Ser Pro Lys Val Arg Ala Leu Ile Ala		
785	790	795
Gly Gly Lys Asp Ile Arg Gly Trp Tyr Asp Ile Pro Ser Asp Arg Ile		
805	810	815
Cys Leu Tyr Leu Pro Lys Ala Arg Gly Lys Glu Asp Ile Glu Arg Thr		
820	825	830
Leu Leu His Glu Gly Val Gly His Tyr Gly Leu Arg Arg Leu Ala Gly		
835	840	845
Arg Lys His Met Asp Ala Phe Leu Asp Asp Ile Phe Ala Gly Cys Gly		
850	855	860
Glu Lys Val Arg Gly Glu Ile Ile Arg Leu Ala Gly Thr Gly Lys Met		
865	870	875
Asp Ile Arg Thr Ala Thr Glu Glu Tyr Leu Ala Gln Met Ala Glu Ser		
885	890	895
Gly Thr Asp Ala Arg Val Trp Asp Lys Ile Arg Leu Ala Phe Arg Asn		
900	905	910
Leu Leu Arg Lys Leu Gly Phe Ser Ile Glu Val Asp Asp Arg Glu Leu		
915	920	925
Lys Gly Leu Leu Ala Ala Ser Arg Glu Asn Leu Lys Arg Thr Ala Ala		
930	935	940
Thr Arg Ile Pro Glu Lys Ile Gln Thr Pro Lys Gly Glu Leu Glu Leu		
945	950	955
Thr Pro Gly Tyr Ala Ala Gly Ser Leu Arg Ser Lys Asp Gly Val Arg		
965	970	975
Asp Val Thr Pro Phe Leu Lys Glu Met Lys Arg Ala Gly Leu Lys Pro		
980	985	990
Ala Ser Leu Ser Pro Glu Glu Trp Lys Ser Leu Phe Ser Gly Lys Gly		
995	1000	1005
Ile Ala Leu Pro Asp Gly Arg Met Leu Met Ala Val Lys Glu Pro Ala		
1010	1015	1020
Gly Tyr Gly Leu Lys Ile Thr Ala Pro Ala Leu Arg Ser Ile Lys Thr		
1025	1030	1035
Ala Glu Met Glu Ile		1040
1045		

&lt;210&gt; 7323

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7323

Arg Ile Met Gln Val Cys Val Pro Met Asp Arg Ala Lys Asp Asn Asn

1	5	10	15
Arg Ala Phe Gly Ala Tyr Thr Ser Asp Leu His Ala Ile Leu Glu Trp			
20	25	30	
Val Arg Glu Cys Gly Ile Lys Thr Val Ala Met Glu Ser Thr Gly Val			
35	40	45	
Tyr Trp Ile Pro Leu Phe Cys Arg Leu Gln Asp Asp Gly Leu Asp Val			
50	55	60	
Val Leu Thr Asn Ala Arg Asp Ile Lys Asn Ile Thr Glu Arg Lys Thr			
65	70	75	80
Asp Glu Ser Asp Ala Glu Trp Leu Leu Leu His Gln Tyr Gly Leu			
85	90	95	
Leu Lys Thr Ser Phe Gln Leu His Asn Asp Ala Lys Arg Met Arg Thr			
100	105	110	
Leu Thr Arg His Arg Asp Thr Leu Ser Arg Glu Pro Gln Ala			
115	120	125	

&lt;210&gt; 7324

&lt;211&gt; 140

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7324

1	5	10	15
Pro Gln Thr Asn His Val Met Leu Asn Glu Asn Asn Arg Ser Ser Asp			
Arg Ile Leu Thr Glu Arg Ile Leu Asp Asp Pro Asp Met Ile Leu Lys			
20	25	30	
Ile Glu Asn Pro Ser Leu Lys Gln Gln Met Ala Ala Val Gln Lys Lys			
35	40	45	
Pro Glu Leu Ile Ala Ser Leu Pro Leu Ala Gly Glu Lys Val Gln Leu			
50	55	60	
Ala Ala Val Ile Ala Cys Pro Glu Ser Ile Leu Leu Val Asp Thr Pro			
65	70	75	80
Ala Pro Ala Ala Cys Phe Met Ala Val Glu Arg Met Leu Lys Glu Glu			
85	90	95	
Leu Leu Pro Val Pro Gly Val Leu Asn Ala Ala Arg Glu Leu Ile Leu			
100	105	110	
Gln Met Lys Lys Asp Lys Ala Asp Gly Arg Ser Ser Gly Ala Ala Ile			
115	120	125	
Glu Lys Phe Leu Asp Glu Val Lys Pro Ile Lys Asn			
130	135	140	

&lt;210&gt; 7325

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7325

1	5	10	15
Ile Arg Thr Asn Tyr Arg Asp Ala Tyr Arg Asn Trp Gln Cys Met Cys			
Ser Ile Glu Ala Ile Glu Ala Val Lys Arg Cys Arg Gln Ala Gly Phe			
20	25	30	
Gln Asn Ile Ser Ile Asp Leu Ile Tyr Gly Leu Pro Gly Glu Thr Asp			
35	40	45	
Gln Arg Trp Ala Gln Asp Leu Gln Gln Thr Val Ser Leu Asn Val Glu			
50	55	60	
His Ile Ser Ala Tyr His Pro Ile Tyr Glu Glu Gly Thr Pro Leu Tyr			
65	70	75	80
Lys Met Leu Gln Gln His Ser Val Phe Gln Val Asp Glu Asp Ser Ser			
85	90	95	

Leu Asn Phe Phe Ser Thr Leu Ile Asp Thr Leu Ser Ala Ala Gly Tyr  
     100                 105                 110  
 Glu His Tyr Glu Ile Ser Asn Phe Cys Lys Pro Arg Met Tyr Ser Arg  
     115                 120                 125  
 Tyr Asn Thr Ser Tyr Arg Gln Gly Ile Pro Tyr Leu Gly Cys Gly Pro  
     130                 135                 140  
 Ser Ala His Ser Phe Asp Gly Asp Ser Arg Glu  
     145                 150                 155

&lt;210&gt; 7326

&lt;211&gt; 84

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7326

Lys Met Pro Glu Pro Ile Arg Pro Asp Thr Lys Asn Gly Lys Val Leu  
 1                 5                 10                 15  
 Asn Leu Leu Pro Asn Val Ile Phe Tyr Gly Ile Phe Leu Leu Phe Tyr  
     20                 25                 30  
 Asn Ser Arg Ser Phe Phe Gln Thr Val Val Asp Pro Arg Leu Asn His  
     35                 40                 45  
 Ile Leu Tyr Lys Asn Val Ile Tyr Ile Val Ile Arg Lys Asn Phe Val  
     50                 55                 60  
 Ser Ala Pro Asn Asp Trp His Arg Asn Ser Phe Asn Cys Gln Pro Leu  
     65                 70                 75                 80  
 Asp Ile Thr Glu

&lt;210&gt; 7327

&lt;211&gt; 536

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7327

Ile Val Met Glu Asn Leu Ile Pro Tyr Ile Lys Leu Ile Ile Leu Ala  
 1                 5                 10                 15  
 Leu Ala Cys Leu Val Thr Gly Val Cys Thr Leu Ser Arg Lys Trp Tyr  
     20                 25                 30  
 Val Asn Leu Ala Val Phe Leu Ile Cys Ile Ala Gly Glu Thr Phe Met  
     35                 40                 45  
 Ala Tyr Leu Phe Phe Pro Ala Tyr Ala Leu Trp Pro Ala Cys Gly Ser  
     50                 55                 60  
 Val Ala Ile Phe Ala Phe Ser Thr Ala Trp Glu His Leu Lys Pro Ser  
     65                 70                 75                 80  
 Gly Arg Lys Glu Asn Lys Ser Pro Ile Arg Leu Pro Val Ile Ser Gly  
     85                 90                 95  
 Val Pro Tyr Arg His Leu Glu Phe Tyr Tyr Tyr Ser Asn Phe Leu  
     100                105                110  
 Val Tyr Gly Gly Ala Gly Ser Gly Lys Thr Lys Ser Ile Gly Lys Trp  
     115                120                125  
 Leu Leu Glu Glu Tyr Ile Lys Leu Gly Phe Ala Gly Phe Ile Tyr Asp  
     130                135                140  
 Phe Lys Asp Val Asp Tyr Thr Gln Thr Ala Tyr Asn Leu Thr Lys Lys  
     145                150                155                160  
 Tyr Gly Tyr Pro His Lys Phe Tyr Tyr Val Ser Phe Asp Lys Pro Glu  
     165                170                175  
 Arg Ser Tyr Arg Phe Asn Pro Leu Lys Val Val Lys Asp Arg Thr Glu  
     180                185                190  
 Leu Met Gln Leu Met Glu Asp Val Leu Leu Ala Leu Pro Lys Gly

195	200	205
Glu Lys Gln Asn Glu Trp Val Ala Gly Gly Leu Gly Ile Leu Arg Gly		
210	215	220
Val Ala Phe Arg Phe Trp Asp Glu Phe Pro Glu Tyr Cys Thr Leu Pro		
225	230	235
His Ile Met Ala Phe Ile Met Thr Ala Ser Thr Arg Gln Leu Ser Ile		
245	250	255
Phe Leu Gln Gln Asn Leu Val Ala Glu Met Met Ala Gly Ala Tyr Leu		
260	265	270
Lys Ala Glu Gly Ser Glu Lys Thr Gln Ala Ser Tyr Leu Ser Thr Leu		
275	280	285
Cys Asn Asn Leu Ser Thr Ile Ser Gln Asn Glu Glu Ile Ala Tyr Ile		
290	295	300
Leu Ser Gly Asp Asp Phe Asp Phe Asn Leu Ile Asp Pro Glu Asp Pro		
305	310	315
320		
Lys Leu Phe Ala Ile Ser Asn Asn Phe Ser Lys Asn Ser Val Tyr Ala		
325	330	335
Pro Val Ile Gly Met Leu Met Ser Ile Ser Thr Arg Gln Phe Thr Met		
340	345	350
Gln Asn Lys Val Pro Phe Val Tyr Phe Leu Asp Glu Met Thr Thr Val		
355	360	365
Asn Ile Lys Asn Phe Glu Thr Leu Pro Ser Val Leu Arg Glu Tyr Lys		
370	375	380
Val Gly Phe Val Leu Leu Thr Gln Ser Gly Ala Lys Leu Glu Ala Leu		
385	390	395
400		
Tyr Gly Lys Leu Asp Arg Ala Ser Val Glu Ala Asn Phe Gly Ile Gln		
405	410	415
Phe Phe Gly Arg Thr Lys Asp Val Glu Ala Leu Lys Tyr Tyr Pro Gln		
420	425	430
Met Phe Gly Lys Glu Glu Lys Glu Arg Lys Ser Arg Ser Thr Gly Lys		
435	440	445
Ser Gly Ser Ser Ser Asn Arg Ser Val Thr Ile Ser Ser Gln Lys Glu		
450	455	460
Asp Ile Tyr Gln Gly Arg Asp Phe Ala Asp Leu Glu Pro Gly Glu Phe		
465	470	475
480		
Ile Gly Ser Ala Thr Arg Ala Asn Val Arg Tyr Phe Lys Val Met Leu		
485	490	495
Gly Glu Phe Lys Glu Lys Asp Glu Lys Pro Leu Pro Asp Val Arg Val		
500	505	510
Leu Glu Pro Glu Glu Ile Thr Arg Asn Phe Ser Arg Ile Leu Ala Glu		
515	520	525
Val Arg Ser Leu Phe Pro Cys Glu		
530	535	

&lt;210&gt; 7328

&lt;211&gt; 229

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7328

Leu Arg Met Asp Thr Glu Arg Asn Met Gln Ser Asp Cys Tyr Phe Cys		
1	5	10
15		
Lys Lys Asn Tyr Phe Cys Glu Leu Phe Ile Leu Lys Ile His Arg Met		
20	25	30
Ser Thr His Gly Ser Leu Ser Glu Val Glu Arg Phe Asn Leu Leu Tyr		
35	40	45
Lys Ser Ser Phe Asn Lys Val Cys Asn Phe Ala Cys Phe Tyr Val Arg		
50	55	60
Asn Lys Gln Ala Ser Glu Asp Ile Thr Met Asp Ala Phe Leu Gln Leu		

65	70	75	80
Leu Glu Thr Met Lys Val Glu Ser Val Asp Asn Pro Met Ala Leu Leu			
85		90	95
Ile Thr Ile Val Lys His Lys Ser Leu Asp Tyr Leu Lys Thr Gln Val			
100		105	110
Arg Arg Glu Asp Thr Lys Asp Asp Leu Ile Gln Trp Lys Gln Arg Glu			
115		120	125
Leu Ala Ile Arg Ile Ser Asn Leu Glu Gly Cys Asn Pro Ser Tyr Ile			
130		135	140
Phe Ser Gln Glu Ile Lys Ser Ile Val Met Lys Thr Leu Asn Gln Leu			
145		150	160
Ser Glu Gln Thr Lys Lys Val Phe Ile Met Ser Arg Phe Glu Asn Lys			
165		170	175
Ser Gly Lys Glu Ile Ala Gln Thr Leu Gly Ile Ser Val Lys Gly Val			
180		185	190
Asp Tyr His Met Asn Lys Ala Leu Lys Glu Leu Arg Ala Ala Leu Lys			
195		200	205
Asp Tyr Leu Pro Ile Leu Thr Trp Leu Cys Phe Met Asn Pro Ile Asn			
210		215	220
Lys Gly Trp Ile Ser			
225			

&lt;210&gt; 7329

&lt;211&gt; 157

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7329

1	5	10	15
Arg Ile Phe Glu Gly Lys Ser Pro Glu Leu Tyr Leu Ala Val Gly His			
20		25	30
Phe Val Leu Ser Pro Ala Cys Leu Arg Glu Asn Asn Asn Tyr Pro Tyr			
35		40	45
Lys Ser Ser Arg Met Phe Thr Trp His Val Leu Tyr His Glu Gly Gln			
50		55	60
Val Val Ala Phe Met Pro Val Glu Arg Lys Leu Asp Gly Gly Tyr Lys			
65		70	75
Ile Asp Asn Tyr Tyr Ala Thr Pro Asp Arg Glu Arg Gly Asn Gln Leu			
85		90	95
Leu Lys Leu Leu Lys Ser Val Ile Lys Glu Ser Gly Asp Glu Thr Ser			
100		105	110
Pro Leu Arg Ala Thr Val Gln Lys Arg Asp Val Gly Ile Phe Lys Tyr			
115		120	125
Met Asn Phe Ile Thr Ile Arg Glu Thr Lys Leu Tyr Val Met Met Glu			
130		135	140
Leu Val Arg Met Gly Ser Asp Ser Gly Lys Gln Asp Gly			
145		150	155

&lt;210&gt; 7330

&lt;211&gt; 102

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7330

1	5	10	15
Gly Glu Ala Tyr Asp Leu Asn Gly Asp Gly Val Lys Asp Val Ala Val			
20		25	30

Val Asp Lys Glu Pro Pro Ala Gly Glu Lys Ile Lys Gly Val Gln Tyr  
 35 40 45  
 Val Val Ile Gly Lys Thr Asn Arg Leu Ser Glu Gly Asp His Gly Tyr  
 50 55 60  
 Ile Glu Phe Gly Phe Asn Gln Gly Arg Lys Trp Asp Asp Lys Lys Tyr  
 65 70 75 80  
 Leu Arg Pro Ile Pro Leu Thr Ala Thr Gln Ile Asn Pro Ala Leu Leu  
 85 90 95  
 Pro Gln Asn Pro Gly Trp  
 100

<210> 7331  
<211> 423  
<212> PRT  
<213> B.fragilis

<400> 7331  
Lys Arg Met Gly Gly Thr Arg Met Asn Val Tyr Gln Ala Leu Arg Glu  
1 5 10 15  
Arg Ile Arg Arg Ile Phe Gly Glu Tyr Asp Tyr Val Tyr Leu Ser Phe  
20 25 30  
Ser Gly Gly Lys Asp Ser Gly Val Leu Leu Asn Ala Cys Val Glu His  
35 40 45  
Ile Lys Gln Tyr Gly Gly Arg Met Gly Val Phe His Met Asp Tyr Glu  
50 55 60  
Val Gln Tyr Ser Leu Thr Thr Lys Tyr Val Asp Glu Met Leu Ser Ser  
65 70 75 80  
Asn Arg Asp Ile Leu Asp Val Tyr Arg Cys Cys Val Pro Phe Lys Val  
85 90 95  
Gly Ser Ala Ala Ser Met Tyr Gln Arg Phe Trp Arg Pro Trp Asp Pro  
100 105 110  
Cys Val Arg Trp Val Arg Glu Met Pro Val Glu Tyr Leu Gly Thr Glu  
115 120 125  
Ala Phe Asp Phe Tyr Thr Pro Gln Met Trp Asp Tyr Glu Phe Gln Glu  
130 135 140  
Cys Phe Ser Phe Trp Leu Arg Lys Gln Leu Gly Val Gln Lys Val Ala  
145 150 155 160  
Cys Leu Val Gly Ile Arg Thr Gln Glu Ser Phe Asn Arg Trp Arg Thr  
165 170 175  
Ile Tyr Arg Ser Thr Pro Gly Pro Ser Ala Asp Trp Ile Cys Pro Val  
180 185 190  
Asp Glu Gly Ile Asp Asn Val Tyr Pro Leu Tyr Asp Trp His Thr Thr  
195 200 205  
Asp Ile Trp Thr Ala Asn Gly Arg Phe Arg Trp Lys Tyr Asn Arg Leu  
210 215 220  
Tyr Asp Leu Tyr Tyr Gln Ala Gly Val Pro Leu Asn Ser Gln Arg Val  
225 230 235 240  
Ala Ser Pro Phe Ile Ser Gln Ala Ile Pro Ser Leu His Leu Tyr Arg  
245 250 255  
Val Ile Glu Pro Glu Met Trp Gly Lys Met Leu Gly Arg Val Asn Gly  
260 265 270  
Val Asn Phe Ala Gly Val Tyr Gly Asn Ser Val Ala Met Gly Trp Arg  
275 280 285  
Gly Val Arg Leu Pro Glu Gly Met Thr Trp Lys Lys Tyr Leu Phe Phe  
290 295 300  
Leu Leu Asp Thr Leu Pro Glu Asp Ala Arg Asn Asn Tyr Leu Asp Lys  
305 310 315 320  
Leu Glu Val Ser Val Arg Phe Trp Arg Glu Lys Gly Gly Cys Leu Ala  
325 330 335

Lys Glu Thr Ile Met Lys Leu Lys Arg Leu Asn Ile Pro Phe Glu Leu  
 340 345 350  
 Gly Gly Thr Ser Gly Tyr Arg Thr His Lys Ala Pro Val Arg Met Glu  
 355 360 365  
 Tyr Leu Asp Asp Ile Asp Leu Pro Glu Phe Arg Asp Leu Pro Ser Tyr  
 370 375 380  
 Lys Arg Met Cys Ile Cys Ile Leu Lys Asn Asp His Cys Ala Asn His  
 385 390 395 400  
 Gly Leu Phe Thr Glu Gln Ser Gly Glu Arg Thr Pro Thr Pro Asp Asp  
 405 410 415  
 Gly Arg Val Arg Ile Leu Phe  
 420

&lt;210&gt; 7332

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7332

Leu Asp Ala Ile Ser Leu Thr Glu His Ile Glu Tyr Arg Pro His Lys  
 1 5 10 15  
 Lys Asp Val Val Ala Asp His Asn Arg Ser Phe Asp Leu Cys Gln Lys  
 20 25 30  
 Gln Ala Glu Lys Leu Gly Ile Leu Ile Arg Gly Ser Glu Ile Thr  
 35 40 45  
 Arg Pro Met Ala Pro Gly His Phe Asn Ala Ile Phe Leu Ala Asp Ser  
 50 55 60  
 Asn Pro Leu Glu Gln Lys Glu Tyr Lys Asp Ala Phe Asn Glu Ala Lys  
 65 70 75 80  
 Arg Gln Gly Ala Phe Ile Phe Trp Asn His Pro Gly Trp Ala Ala Gln  
 85 90 95  
 Gln Pro Asp Thr Thr Lys Trp Trp Pro Glu His Thr Glu Leu Tyr Asn  
 100 105 110  
 Glu Gly Cys Met His Gly Ile Glu Val Ala Asn Gly Pro Leu Tyr Met  
 115 120 125  
 Pro Glu Ala Ile Gln Trp Cys Leu Asp Lys Asn Leu Thr Met Ile Gly  
 130 135 140  
 Thr Ser Asp Ile His Gln Pro Ile Gln Thr Asp Tyr Asp Phe Ser Lys  
 145 150 155 160  
 Asp Glu His Arg Thr Met Thr Phe Val Phe Ala Lys Glu Arg Ser Leu  
 165 170 175  
 Lys Gly Ile Arg Glu Ala Leu Glu Asn Arg Arg Thr Ala Ala Tyr Tyr  
 180 185 190  
 Arg Glu Leu Val Ile Gly Arg Glu Asp Leu Leu Arg Pro Phe Phe Glu  
 195 200 205  
 Lys Cys Val Glu Ile Glu Glu Ile Ser Arg Asn Glu Lys Gly Val Thr  
 210 215 220  
 Leu Ser Ile Thr Asn Thr Thr Asp Leu Val Leu Lys Leu Lys Thr  
 225 230 235 240  
 Ala His Asp Thr Ser Leu Val Tyr Phe Arg Asp Met Thr Leu Lys Pro  
 245 250 255  
 His Thr Arg Tyr Ser Val Arg Ile Gly Phe Asp Asn Gly Ile Lys Gly  
 260 265 270  
 Gly Asp Met Asn Phe Glu Val Thr Asn Phe Ile Val Thr Pro Asp Lys  
 275 280 285  
 Gly Leu Glu Tyr Thr Ile Ser Leu  
 290 295

&lt;210&gt; 7333

<211> 118  
<212> PRT  
<213> B.fragilis

<400> 7333

Ile	Met	Asn	Met	Asp	Lys	Asn	Asp	Ser	Phe	Asp	Gly	Pro	Leu	Gln	Glu
1				5					10					15	
Gly	Arg	His	Thr	Thr	Leu	Arg	Ser	Phe	Ser	Trp	Gly	Asn	Arg	Glu	Phe
				20				25					30		
Thr	Ile	Ser	Ser	Asp	Lys	Ile	Ser	Leu	Tyr	Val	Gly	Gly	Ile	Pro	Tyr
				35				40				45			
Asp	Thr	Lys	Pro	Met	Leu	Asp	Ile	Leu	Arg	Gly	Ser	Gly	Val	Asp	Pro
				50				55			60				
Gly	Lys	Leu	Ser	Pro	Ala	Arg	Trp	Ile	Ser	Leu	Leu	Arg	Gly	Gln	Pro
				65			70			75			80		
Thr	Arg	Leu	Pro	Gly	Cys	Glu	Lys	Pro	Phe	Met	Leu	Phe	Lys	Ala	Pro
				85				90				95			
Ser	Gly	Tyr	Thr	Leu	Lys	Cys	Leu	Glu	Ile	Thr	Arg	Gly	Arg	Asn	Arg
				100				105				110			
Ala	Phe	Gln	Thr	Glu	Met										
				115											

<210> 7334  
<211> 126  
<212> PRT  
<213> B.fragilis

<400> 7334

Pro	Arg	Ser	Met	Trp	Met	Arg	Cys	Cys	Leu	Arg	Thr	Gly	Ile	Phe	Trp
1					5				10			15			
Met	Phe	Thr	Ala	Val	Ala	Cys	Leu	Ser	Arg	Ser	Val	Arg	Leu	His	Pro
					20				25			30			
Cys	Thr	Arg	Asp	Ser	Gly	Gly	Pro	Gly	Thr	Leu	Val	Ser	Val	Gly	Ser
					35			40				45			
Gly	Arg	Cys	Leu	Trp	Asn	Thr	Trp	Val	Arg	Lys	His	Leu	Ile	Phe	Ile
					50			55			60				
Leu	Arg	Arg	Cys	Gly	Ile	Thr	Ser	Ser	Arg	Asn	Val	Phe	Pro	Phe	Gly
					65			70			75		80		
Ser	Ala	Ser	Asn	Leu	Glu	Cys	Lys	Lys	Trp	His	Val	Trp	Leu	Glu	Tyr
					85			90			95				
Val	Pro	Arg	Lys	Ala	Leu	Thr	Val	Gly	Glu	Arg	Ser	Ile	Val	Ala	Leu
					100			105			110				
Arg	Ala	Leu	Gln	Pro	Thr	Gly	Tyr	Val	Leu	Ser	Met	Arg	Ala		
					115			120			125				

<210> 7335  
<211> 69  
<212> PRT  
<213> B.fragilis

<400> 7335

Ala	Ser	Thr	Ile	Arg	His	Asn	Arg	Ala	Arg	Gly	Met	His	Lys	Ile	Glu
1					5				10			15			
Leu	Met	Thr	Arg	Leu	Val	Gly	Glu	Leu	Thr	Arg	Ser	Gly	Met	Ser	Asp
					20			25			30				
Ser	Trp	Ile	Arg	Arg	Asn	Leu	Gly	Met	Asp	Lys	Asp	Glu	Leu	Leu	Arg
					35			40			45				
Leu	Lys	Gln	Ile	Ser	Gly	Leu	Ala	Glu	Leu	Phe	Ala	Asp	Lys	Glu	Phe
					50			55			60				

Arg Met Ala Val Glu  
65

<210> 7336

<211> 69

<212> PRT

<213> B.fragilis

<400> 7336

Ile	Asp	Asn	Met	Lys	Val	Lys	Val	Leu	Val	Cys	Thr	Phe	Leu	Leu	
1			5				10				15				
Ala	Thr	Cys	Leu	Met	Asn	Ala	Gln	Ala	Gln	Arg	Arg	Asn	Glu	Ile	Leu
			20				25			30					
Val	Pro	Asp	Leu	Asp	Gly	Tyr	Thr	Leu	Lys	Cys	Asp	Phe	His	Met	
			35			40			45						
His	Thr	Val	Phe	Ser	Asp	Gly	Leu	Val	Trp	Pro	Thr	Val	Arg	Val	Asp
			50			55			60						
Asp	Ala	Tyr	Arg	Glu											
			65												

<210> 7337

<211> 439

<212> PRT

<213> B.fragilis

<400> 7337

Lys	Leu	Ile	Val	Met	Pro	Thr	Ile	Leu	Glu	Arg	Leu	Thr	Ala	Leu	Phe
1				5				10			15				
Ser	Arg	Asp	Met	Gln	Ala	Val	Leu	Arg	Asn	Pro	Arg	Ala	Ile	Ser	Met
				20				25			30				
Ile	Glu	Asn	Pro	Ser	Ile	Arg	Val	Gln	Met	Ala	Ala	Ile	Arg	Arg	Asp
				35			40			45					
Lys	Ser	Val	Ile	Cys	Phe	Ile	Asp	Lys	Pro	Val	Glu	Lys	Val	Gln	Leu
				50			55			60					
Ala	Ala	Val	Arg	Asn	Ala	Pro	His	Asn	Ile	His	Phe	Ile	Ala	Ser	Pro
				65			70			75			80		
Gly	Glu	Lys	Val	Gln	Leu	Ser	Val	Ile	Arg	His	Lys	Pro	Gly	Tyr	Ile
				85			90			95					
Gly	Phe	Ile	Ser	Asn	Pro	Thr	Glu	Lys	Ala	Gln	Leu	Thr	Ala	Val	Glu
				100			105			110					
Arg	Arg	Pro	Glu	Cys	Ile	Ser	Leu	Ile	Asn	Lys	Pro	Ala	Val	Lys	Val
				115			120			125					
Gln	Leu	Met	Ala	Val	Leu	Lys	Asp	Pro	Ala	His	Ile	Ala	Ser	Ile	Lys
				130			135			140					
Glu	Pro	Ala	Glu	Lys	Val	Gln	Leu	Ala	Thr	Val	Gln	Lys	Asn	Pro	Glu
				145			150			155			160		
Tyr	Ile	Arg	His	Ile	Glu	Ser	Pro	Thr	Val	Lys	Val	Gln	His	Met	Ala
				165			170			175					
Ile	Gln	Gly	Asn	Ala	Asp	Thr	Leu	Arg	His	Ile	Lys	Ser	Pro	Ala	Asp
				180			185			190					
Thr	Val	Gln	Leu	Ala	Ala	Val	Gln	Ala	Lys	Gly	Glu	Thr	Ile	Lys	Tyr
				195			200			205					
Val	Ser	Glu	Pro	Ser	Glu	Ala	Val	Gln	Leu	Ala	Ala	Val	Arg	Asn	Asn
				210			215			220					
Pro	Met	Asn	Ile	Arg	Tyr	Ile	Glu	Asn	Pro	Thr	Glu	Lys	Val	Gln	Leu
				225			230			235			240		
Ser	Val	Leu	His	Ala	Asp	Arg	Glu	Ala	Ala	Leu	Ile	Ser	Ser	Pro	
				245			250			255					
Ser	Glu	Ala	Val	Arg	Lys	Gln	Ala	Glu	Glu	Met	Tyr	Gly	Leu	Lys	Leu

260	265	270
Glu Lys Pro Ala Asp Arg Glu	Ala Glu Pro Ser Ser	Glu Ala Thr Glu
275	280	285
Ser Ser Ala Thr Arg Arg Ala	Pro Arg Lys Lys	Thr Glu Gln Ser Thr
290	295	300
Gln Ser Thr Arg Lys Pro Ser Ala Arg Gln Val	Lys Thr Ala Ile Glu	
305	310	315
Lys Leu Asp Lys Asp Leu Arg Glu Ile Gln Glu Ile	Pro Gln Val Lys	
325	330	335
Asn Arg Asp Lys Leu Ile Lys Ala Phe Glu Glu Phe	Asn Ser Ser	
340	345	350
Ala Val Pro Glu Lys Lys Gly Cys Asp Val Glu Ser	Ile Leu Lys Asp	
355	360	365
Leu Arg Gly Lys Gly Val Lys Val Glu Ala Met Lys	Ala Glu Glu Trp	
370	375	380
His Ser Leu Met Asn Gly Lys Ala Ile Arg Pro	Ser Leu Ile Ser Gly	
385	390	395
Ala Ser Lys Pro Ala Ala Lys Gly Ala Pro Phe Met	Leu Thr Lys Thr	
405	410	415
Pro Val Gly Tyr Ala Val Lys Ala Val Asn Thr Val	Asn Ser Leu Thr	
420	425	430
Arg Gln Ala Ser Ala Asp Met		
435		

&lt;210&gt; 7338

&lt;211&gt; 213

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7338

Ala Ser Ser Val Val Leu Arg Met Gln Lys Ala Met Gln Gln Met Lys			
1	5	10	15
Ile Lys Leu Thr Leu Val Leu Ser Asp Ile Thr Gly Lys Ser Gly Ile			
20	25	30	
Arg Ile Ile Glu Ala Ile Leu Ala Gly Glu Arg Asn Pro Asp Lys Leu			
35	40	45	
Ala Asp Met Ala Asp Leu Gln Cys Lys Thr Pro Lys Gly Glu Ile Ala			
50	55	60	
Lys Ala Leu Glu Gly Asn Trp Glu Glu Asp Leu Val Phe Val Leu Arg			
65	70	75	80
Gln Asn Tyr Asp Thr Phe Lys His Phe Cys Thr Gln Leu Asp Arg Cys			
85	90	95	
Asp Thr Glu Leu Glu Lys Leu Met Glu Asn Tyr Arg Thr Glu Val Ala			
100	105	110	
Glu Ala Gly Arg Pro Ser Tyr Ser Pro Thr Lys Lys Arg Arg Asp Tyr			
115	120	125	
His Lys Arg Lys Arg Thr Val Gly Phe Asp Val Glu Arg Lys Ala Tyr			
130	135	140	
Asp Met Trp Glu Val Asn Val Phe Glu Ile Pro Gly Ile Ser His Leu			
145	150	155	160
Ile Val Leu Glu Leu Met Ser Glu Leu Gly Arg Asp Phe Thr Gln Asn			
165	170	175	
Ser His Pro Pro Asn Ser Ser Thr Val Asp Ala Thr Ser His Arg Thr			
180	185	190	
Pro Arg Tyr Gln Glu Glu Lys Gly Tyr Gln Val Thr Tyr His Ile Val			
195	200	205	
Glu Thr Met Ser Gly			
210			

<210> 7339  
<211> 102  
<212> PRT  
<213> B.fragilis

<400> 7339  
Asn Ile Ala Ser Leu Asn Gln Tyr Leu Ser Ser Val Glu Gln Gly Gln  
1 5 10 15  
Arg Gln His Glu Thr Glu Gln Leu Asp Thr Gln Thr Arg Tyr Asn Glu  
20 25 30  
Tyr Ile Ile Thr Gly Leu Arg Thr Met Trp Gly Ile Ser Thr Glu Glu  
35 40 45  
Leu Asn Ser Lys Phe Gly Asp Arg Leu Trp Lys Tyr Cys Ser Glu Gln  
50 55 60  
Ala Lys Pro Tyr Leu Glu Asn Gly Lys Leu Lys Leu His Asn Asp Arg  
65 70 75 80  
Leu Lys Leu Thr Arg Glu Gly Ile Phe Val Ser Asp Gly Ile Met Ser  
85 90 95  
Ala Leu Leu Glu Ile Glu  
100

<210> 7340  
<211> 520  
<212> PRT  
<213> B.fragilis

<400> 7340  
Ser Pro Leu Thr Val His Arg Ser Thr Thr Val His Arg Arg Ser Phe  
1 5 10 15  
Lys Thr Leu Pro Arg Phe Phe Ser Leu Phe Tyr Leu Leu Met Phe Val  
20 25 30  
Gln Arg Val Asn Tyr Gly Glu Ile Ser Val Ile Pro Phe Ile Phe Pro  
35 40 45  
Leu Tyr Ser His Tyr Tyr Leu Leu Leu Arg Ala Asn Tyr Glu Thr  
50 55 60  
Ile Ile Leu Tyr Asn His Met Ala Asn Val Ile Lys Leu Arg Lys Gly  
65 70 75 80  
Leu Asp Ile Asn Leu Lys Gly Lys Ala Ala Glu Glu Leu Ser Thr Val  
85 90 95  
Lys Glu Pro Gly Phe Tyr Ala Leu Val Pro Asp Asp Phe Pro Gly Val  
100 105 110  
Thr Pro Lys Val Val Val Lys Glu Gln Glu Tyr Val Met Ala Gly Gly  
115 120 125  
Pro Leu Phe Ile Asp Lys Asn His Pro Glu Val Lys Phe Val Ser Pro  
130 135 140  
Val Ser Gly Val Val Thr Ser Val Glu Arg Gly Ala Arg Arg Lys Val  
145 150 155 160  
Leu Asn Ile Val Val Glu Ala Ala Ala Glu Gln Asp Tyr Glu Glu Phe  
165 170 175  
Gly Lys Lys Asp Val Ser Lys Leu Asp Gly Glu Ala Val Lys Ala Ala  
180 185 190  
Leu Leu Glu Ala Gly Met Phe Ala Phe Met Lys Gln Arg Pro Tyr Asp  
195 200 205  
Val Ile Ala Asp Pro Thr Val Ala Pro Arg Ala Ile Phe Ile Ser Ala  
210 215 220  
Phe Asp Ser Asn Pro Leu Ala Pro Asp Phe Glu Tyr Val Leu Lys Gly  
225 230 235 240  
Glu Glu Ala Asn Phe Gln Thr Gly Leu Asp Ala Leu Ala Lys Ile Ala  
245 250 255

Lys Thr Tyr Leu Gly Ile Ser Ile Lys Gln Lys Ser Thr Ala Leu Thr  
 260 265 270  
 Gln Ala Lys Asn Val Thr Val Thr Val Phe Asp Gly Pro Asn Pro Ala  
 275 280 285  
 Gly Asn Val Gly Val Gln Ile Asn His Val Ala Pro Val Val Lys Gly  
 290 295 300  
 Glu Thr Val Trp Thr Ile Gly Ala Glu Ala Val Ile Phe Ile Gly Arg  
 305 310 315 320  
 Leu Phe Asn Thr Gly Arg Val Asp Leu Thr Arg Thr Val Ala Val Thr  
 325 330 335  
 Gly Ser Glu Val Val Lys Pro Ala Tyr Cys Arg Leu Lys Val Gly Ala  
 340 345 350  
 Leu Leu Thr His Val Phe Ala Gly Asn Val Thr Lys Asp Lys Glu Leu  
 355 360 365  
 Arg Tyr Ile Ser Gly Asn Val Leu Thr Gly Lys Gln Val Lys Pro Asn  
 370 375 380  
 Gly Phe Leu Gly Ala Phe Asp Ser Gln Leu Thr Val Ile Pro Glu Gly  
 385 390 395 400  
 Asp Asp Ile His Glu Met Leu Gly Trp Ile Met Pro Arg Phe Asn Gln  
 405 410 415  
 Phe Ser Val Asn Arg Ser Tyr Phe Ser Trp Leu Met Gly Asn Lys Lys  
 420 425 430  
 Glu Tyr Val Leu Asp Ala Arg Ile Lys Gly Gly Glu Arg His Met Ile  
 435 440 445  
 Met Ser Gly Glu Tyr Asp Lys Val Phe Pro Met Asp Ile Leu Pro Glu  
 450 455 460  
 Phe Leu Ile Lys Ala Ile Ile Ala Gly Asp Ile Asp Arg Met Glu Ala  
 465 470 475 480  
 Leu Gly Ile Tyr Glu Val Ala Pro Glu Asp Phe Ala Leu Cys Glu Phe  
 485 490 495  
 Val Asp Ser Ser Lys Leu Glu Leu Gln Arg Ile Val Arg Ala Gly Leu  
 500 505 510  
 Asp Met Leu Arg Ala Glu Met Met  
 515 520

<210> 7341  
 <211> 361  
 <212> PRT  
 <213> B.fragilis

<400> 7341  
 Leu Met Lys Ala Leu Arg Asn Tyr Leu Asp Lys Ile Lys Pro Asn Phe  
 1 5 10 15  
 Glu Glu Gly Gly Lys Leu His Ala Phe Arg Ser Val Phe Asp Gly Phe  
 20 25 30  
 Glu Thr Phe Leu Phe Val Pro Asn Thr Thr Ser Lys Ser Gly Ala His  
 35 40 45  
 Ile His Asp Ser Ile Asp Ser Lys Arg Ile Met Ser Ile Val Val Ile  
 50 55 60  
 Ser Leu Ile Pro Ala Leu Leu Phe Gly Met Tyr Asn Val Gly Tyr Gln  
 65 70 75 80  
 His Phe Thr His Thr Gly Ala Gln Gly Gly Phe Ile Glu Met Phe Ile  
 85 90 95  
 Tyr Gly Phe Leu Ala Ile Leu Pro Lys Ile Ile Val Ser Tyr Val Val  
 100 105 110  
 Gly Leu Gly Ile Glu Phe Val Val Ala Gln Trp Lys Lys Glu Glu Ile  
 115 120 125  
 Gln Glu Gly Phe Leu Val Ser Gly Ile Leu Ile Pro Met Ile Val Pro  
 130 135 140

Val Asp Cys Pro Leu Trp Ile Leu Ala Ile Ala Thr Ala Phe Ala Val  
 145 150 155 160  
 Ile Phe Ala Lys Glu Val Phe Gly Gly Thr Gly Met Asn Val Phe Asn  
 165 170 175  
 Val Ala Leu Val Thr Arg Ala Phe Leu Phe Phe Ala Tyr Pro Thr Lys  
 180 185 190  
 Met Ser Gly Asp Ala Val Trp Val Ala Gln Asp Ser Ile Phe Gly Leu  
 195 200 205  
 Gly Asn Thr Val Asp Gly Leu Thr Ala Ala Thr Ser Leu Gly Val Ala  
 210 215 220  
 Ser Thr Ala Thr Asp Pro Asn Gly Phe Pro Ala Phe Ser Trp Asp Met  
 225 230 235 240  
 Val Thr Gly Leu Ile Pro Gly Ser Ile Gly Glu Thr Ser Val Ile Ala  
 245 250 255  
 Ile Leu Ile Gly Ala Val Ile Leu Leu Trp Thr Gly Ile Ala Ser Trp  
 260 265 270  
 Arg Thr Met Leu Ser Val Phe Val Gly Gly Ala Phe Met Gly Trp Ile  
 275 280 285  
 Phe Asn Thr Val Gly Pro Asp Thr Ala Met Ala His Met Pro Trp Tyr  
 290 295 300  
 Glu His Leu Val Leu Gly Gly Phe Cys Phe Gly Ala Pro Phe Met Ala  
 305 310 315 320  
 Thr Asp Pro Val Thr Ser Ala Arg Thr Glu Thr Gly Lys Tyr Ile Phe  
 325 330 335  
 Gly Phe Leu Ile Gly Ala Met Ala Ile Ile Val Phe Thr Arg Val Ser  
 340 345 350  
 Ser Ala Arg Ser Ile Trp Ser Val His  
 355 360

&lt;210&gt; 7342

&lt;211&gt; 432

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7342

Ile Met Cys Tyr Glu Leu His His Phe Ser Thr Lys His Ile Glu Ser  
 1 5 10 15  
 Gly Thr Asn Asp Ala Leu Gln Phe Gln Phe Arg Arg Val Asp Lys Phe  
 20 25 30  
 Ala Gln Ser Lys Val Phe Gly Arg His Phe Val Asp Thr Gln Ser Phe  
 35 40 45  
 His Ala Val Asp Val Pro Gly Asn Asp Cys Phe Asp Gln Glu Phe Arg  
 50 55 60  
 Gln Asn Val His Arg Glu Tyr Phe Val Val Phe Ala Gly His Asn His  
 65 70 75 80  
 Val Ala Phe Ala Ser Leu Asp Thr Gly Ile Glu His Ile Leu Leu Leu  
 85 90 95  
 Ile Pro His Gln Pro Ala Glu Ile Arg Ala Val Asp Ala Glu Leu Ile  
 100 105 110  
 Glu Thr Gly His Asp Pro Ser Gln His Phe Val Asp Val Val Thr Phe  
 115 120 125  
 Gly Asn His Cys Glu Leu Ala Val Glu Ser Ala Gln Glu Ser Val Arg  
 130 135 140  
 Leu His Leu Phe Ala Cys Gln His Ile Ala Ala Asp Val Thr Gln Leu  
 145 150 155 160  
 Phe Val Leu Arg His Val Ser Gly Lys His Met Gly Gln Gln Cys Ala  
 165 170 175  
 Asp Phe Gln Ser Ala Ile Ser Trp Phe His His Phe Arg Ser Cys Asn  
 180 185 190

Gly Tyr Gly Thr Gly Gln Val His Pro Ser Gly Ile Glu Gln Thr Ser  
 195 200 205  
 Asp Glu Asp Tyr Gly Phe Arg Ala Asp Ser Pro His Arg Leu Thr Phe  
 210 215 220  
 His Tyr Gly Ser Tyr Val Ile Asp Leu Tyr Pro Tyr Ile Ser Gly Arg  
 225 230 235 240  
 Val Arg Ser Val Lys Tyr Gly Tyr Cys Asp Ile Phe Ser Leu Cys Gln  
 245 250 255  
 Gly Cys Arg Phe Leu Phe Asp Ala Asp Thr Gln Ile Arg Phe Gly Tyr  
 260 265 270  
 Phe Ser Gln Gly Ile Gln Ser Cys Leu Glu Ile Ser Phe Phe Pro Phe  
 275 280 285  
 Gln Asn Val Phe Glu Ile Gly Cys Gln Arg Val Ala Val Glu Ser Arg  
 290 295 300  
 Asp Glu Asp Ser Pro Arg Ser Asp Cys Arg Ile Gly Asn His Val Ile  
 305 310 315 320  
 Arg Thr Leu Phe His Lys Cys Lys His Thr Ser Phe Gln Glu Cys Ser  
 325 330 335  
 Phe His Ser Leu Ala Ile Glu Phe Gly Tyr Val Leu Leu Ala Glu Phe  
 340 345 350  
 Phe Val Ile Leu Leu Cys Gly Ser Leu His His Asp Val Gln His Leu  
 355 360 365  
 Thr Ala Cys Thr Ala Leu His Ala Cys Tyr Asn Ala Ala Asn Gly Arg  
 370 375 380  
 Asn Lys Phe His Phe Arg Met Ile Leu Val Asp Lys Gln Gly Ser Pro  
 385 390 395 400  
 Gly His His Ile Phe Leu Leu Phe His His His Leu Arg Ser His Ser  
 405 410 415  
 Trp Glu Ile Ile Gly Tyr Glu Cys Val Glu Ser Arg Phe Phe His Arg  
 420 425 430

&lt;210&gt; 7343

&lt;211&gt; 355

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7343

Ile Leu Arg Cys Thr Leu Ser Arg His Tyr Asn Phe Phe Trp Asp Gln  
 1 5 10 15  
 Leu Glu Lys Ala Asn Leu Phe Leu Gln Gly Val Ile Asp Thr Arg Glu  
 20 25 30  
 Lys Pro Met Asp Asp Lys Met Val Glu Trp Leu Phe Arg Asn Pro Leu  
 35 40 45  
 Ser Asp Gly Gly Thr Phe Thr Gly Val Ala Asp Ile Val Ser Lys Tyr  
 50 55 60  
 Gly Leu Val Pro Lys Glu Val Met Pro Glu Thr Asn Ser Ser Glu Asn  
 65 70 75 80  
 Thr Ser Arg Met Ala Gly Leu Ile Ala Glu Lys Leu Arg Glu Tyr Gly  
 85 90 95  
 Leu Gln Leu Arg Asp Arg Ala Ala Lys Gly Ala Lys Gln Pro Ala Leu  
 100 105 110  
 Glu Lys Asp Lys Thr Glu Met Leu Gly Thr Val Tyr Arg Met Leu Val  
 115 120 125  
 Leu Asn Leu Gly Val Pro Pro Thr Glu Phe Thr Trp Thr Arg Lys Asp  
 130 135 140  
 Glu Lys Gly Asn Pro Val Glu Thr Ala Gln Tyr Thr Pro Met Ser Phe  
 145 150 155 160  
 Leu Glu Lys Tyr Gly Asp Lys Asn Leu Leu Asp Asn Tyr Val Met Leu  
 165 170 175

Met Asn Asp Pro Ser Arg Glu Tyr Tyr Lys Cys Tyr Glu Ile Asp Phe  
     180                     185                     190  
 Asp Arg His Arg Tyr Asp Gly Arg Asn Trp Thr Tyr Val Asn Leu Pro  
     195                     200                     205  
 Ala Asp Glu Ile Lys Glu Met Ala Ile Ala Ser Leu Lys Asp Ser Thr  
     210                     215                     220  
 Met Met Tyr Phe Ser Cys Asp Val Gly Lys Phe Leu Asn Ser Glu Arg  
     225                     230                     235                     240  
 Gly Leu Leu Asp Val Asn Asn Tyr Asp Tyr Ala Ser Leu Met Gly Thr  
     245                     250                     255  
 Thr Phe Gly Met Asp Lys Lys Gln Arg Val Gln Thr Phe Ala Ser Gly  
     260                     265                     270  
 Ser Ser His Ala Met Thr Leu Met Ala Val Asp Val Lys Asp Asn Lys  
     275                     280                     285  
 Pro Val Lys Trp Met Val Glu Asn Ser Trp Gly Ala Thr Asn Gly Tyr  
     290                     295                     300  
 Gln Gly His Leu Ile Met Thr Asp Glu Trp Phe Asp Glu Tyr Met Phe  
     305                     310                     315                     320  
 Arg Leu Val Val Glu Lys Lys Phe Ala Thr Pro Lys Val Leu Glu Ile  
     325                     330                     335  
 Leu Lys Gln Lys Pro Ile Arg Leu Pro Ala Trp Asp Pro Met Phe Ala  
     340                     345                     350  
 Pro Glu Gln  
     355

<210> 7344  
 <211> 812  
 <212> PRT  
 <213> B.fragilis

<400> 7344  
 Ile Tyr His Thr Arg Ser Phe Phe Tyr Ile Cys Arg Ile Pro Ser Pro  
   1              5                     10                     15  
 Ile Tyr Val Lys Ser Ala Gly Ser Phe His Leu Phe Thr Ser Phe Ser  
   20                     25                     30  
 Thr Phe Ile Cys Phe Ile Gly Tyr Phe Cys Arg Arg Tyr Asn Tyr Arg  
   35                     40                     45  
 Val Ser Glu Arg Glu Leu Ala Glu Gly Val Leu Asn Gln Asn Ser Tyr  
   50                     55                     60  
 Thr Met Val Lys Phe Asn Ala Met Lys Thr Lys Pro Leu Arg Leu Leu  
   65                     70                     75                     80  
 Arg Gln Lys Arg Ala Ser Trp Leu Lys Ser Val Phe Val Leu Thr Cys  
   85                     90                     95  
 Leu Leu Leu Ser Thr Ser Val Ala Met Ala Gln Thr Lys Thr Val Thr  
   100                     105                     110  
 Gly Thr Val Thr Asp Ser Phe Asn Glu Pro Leu Ile Gly Ala Ser Ile  
   115                     120                     125  
 Leu Val Lys Gly Thr Ser Thr Gly Ala Val Thr Asp Met Asp Gly Lys  
   130                     135                     140  
 Tyr Ser Ile Ser Val Thr Pro Asn Asp Val Leu Val Phe Ser Tyr Val  
   145                     150                     155                     160  
 Gly Tyr Glu Lys Gln Glu Ile Lys Val Gly Gln Gln Thr Val Ile Asn  
   165                     170                     175  
 Val Thr Leu Lys Asp Asp Ser Gln Met Leu Ala Glu Thr Val Ile Ile  
   180                     185                     190  
 Gly Tyr Gly Ser Ala Lys Lys Arg Asp Leu Thr Gly Ser Ile Thr Asn  
   195                     200                     205  
 Ile Lys Gly Ser Glu Ile Ala Asn Lys Pro Ala Thr Asn Pro Leu Ser  
   210                     215                     220

Ser Leu Gln Gly Lys Ile Ala Gly Val Gln Ile Val Asn Ser Gly Gln  
 225 230 235 240  
 Ala Gly Ala Asp Pro Glu Ile Arg Ile Arg Gly Thr Asn Ser Ile Asn  
 245 250 255  
 Gly Tyr Lys Pro Leu Tyr Val Val Asp Gly Leu Phe Asn Asp Asn Ile  
 260 265 270  
 Asn Phe Leu Asn Pro Glu Asp Ile Glu Ser Met Glu Val Leu Lys Asp  
 275 280 285  
 Pro Ser Ser Leu Ala Ile Phe Gly Val Arg Gly Ala Asn Gly Val Ile  
 290 295 300  
 Ile Val Thr Thr Lys Arg Ala Lys Glu Gly Gln Thr Leu Val Asn Ile  
 305 310 315 320  
 Asn Thr Ser Phe Gly Trp Lys Ser Val Val Asp Lys Ile Lys Met Val  
 325 330 335  
 Asn Ala Pro Gln Phe Lys Glu Leu Tyr Asn Glu Gln Met Ala Asn Gln  
 340 345 350  
 Gly Asn Ala Leu Phe Asp Phe Ser Asn Trp Asn Ala Asn Thr Asp Trp  
 355 360 365  
 Gln Asp Glu Ile Phe Gln Thr Gly Phe Ile Thr Asn Asn Asn Val Ser  
 370 375 380  
 Ile Thr Gly Ala Ser Glu Lys His Ser Phe Tyr Leu Gly Val Gly Tyr  
 385 390 395 400  
 Ser His Glu Gln Gly Asn Ile Lys His Glu Lys Tyr Ser Lys Val Thr  
 405 410 415  
 Ile Asn Ala Ser Asn Asp Tyr Lys Ile Thr Lys Asp Ile Lys Val Gly  
 420 425 430  
 Phe Gln Phe Asn Gly Ala Arg Met Leu Pro Ala Asp Ser Lys Thr Val  
 435 440 445  
 Leu Asn Ala Ile Arg Thr Thr Pro Val Ala Pro Val Tyr Asn Glu Glu  
 450 455 460  
 Tyr Gly Leu Tyr Thr Ser Leu Pro Glu Phe Gln Lys Ala Gln Met Asn  
 465 470 475 480  
 Asn Pro Met Val Asp Val Asn Leu Arg Ala Asn Thr Thr Arg Ala Val  
 485 490 495  
 Asn Tyr Arg Ala Ser Gly Ser Ile Tyr Gly Glu Val Asp Phe Leu Lys  
 500 505 510  
 His Phe Thr Phe Lys Ala Met Phe Ser Met Asp Tyr Ala Thr Asn Asp  
 515 520 525  
 Ser Arg Thr Tyr Lys Pro Ile Ile Lys Val Tyr Asp Ala Thr Phe Ala  
 530 535 540  
 Gly Asn Val Ala Thr Leu Gly Asn Gly Lys Thr Glu Val Ser Gln Asn  
 545 550 555 560  
 Lys Gln Asn Glu Thr Lys Val Gln Ser Asp Tyr Leu Leu Thr Tyr Gln  
 565 570 575  
 Asn Ser Phe Ala Asp Gly Thr His Asn Leu Thr Ala Thr Ala Gly Phe  
 580 585 590  
 Thr Thr Tyr Tyr Asn Ser Leu Ser Gly Leu Asp Ala Ser Arg Gly Gln  
 595 600 605  
 Gly Ile Gly Leu Val Ile Pro Asn Asn Pro Asp Lys Trp Phe Val Ser  
 610 615 620  
 Ile Gly Asp Leu Ala Thr Ala Thr Asn Gly Ser Thr Gln Trp Glu Arg  
 625 630 635 640  
 Thr Thr Val Ser Met Leu Ala Arg Ile Ile Tyr Asn Tyr Lys Gly Lys  
 645 650 655  
 Tyr Leu Phe Asn Gly Ser Phe Arg Arg Asp Gly Ser Ser Ala Phe Ala  
 660 665 670  
 Tyr Thr Gly Asn Gln Trp Gln Asn Phe Tyr Ser Ile Gly Ala Gly Trp  
 675 680 685  
 Leu Met Thr Glu Glu Phe Met Lys Asp Ile Thr Trp Leu Asp Met

690	695	700
Leu Lys Leu Lys Gly Ser Trp Gly Thr Leu Gly Asn Gln Asn Met Asp		
705	710	715
Lys Ala Tyr Pro Ala Glu Pro Leu Leu Glu Asn Ala Phe Ala Ala Val		720
725	730	735
Phe Gly Lys Pro Ala Ile Ile Tyr Pro Gly Tyr Gln Leu Ala Tyr Leu		
740	745	750
Pro Asn Pro Arg Leu Arg Trp Glu Lys Val Glu Ala Trp Glu Thr Gly		
755	760	765
Phe Glu Thr Asn Met Phe Arg Asn Arg Phe His Phe Glu Gly Val Tyr		
770	775	780
Tyr Lys Lys Asn Thr Lys Asp Leu Leu Ala Thr Val Pro Gly Leu Ser		
785	790	795
Gly Thr Arg Thr Gly His Arg Gln Ser Trp Arg Asp		800
805	810	

&lt;210&gt; 7345

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7345

His Ile Phe Leu Ser Leu Phe Arg His Arg Met Ser Asn Ser Ser Ala		
1	5	10
Gly Gln Gln Gly Arg Ser Phe Phe Pro Ala Arg Leu Tyr Val Cys Ala		15
20	25	30
Met Gly Lys Pro Ile Ile Lys Ile Leu Tyr Phe His Arg Arg Arg Thr		
35	40	45
Asn Ala Ser Gly Trp Tyr Arg Leu Glu Tyr Ile Phe Gln Arg Gly Lys		
50	55	60
Lys Thr Leu Arg Tyr Val Leu Ser Thr Arg Asp Pro Glu Tyr Leu Val		
65	70	75
Cys Phe Cys Ser Pro Cys Met Val Glu Arg Ser Glu Met Ile Val Phe		80
85	90	95
Val Ala Glu Leu Leu Leu Glu Ile His Lys Val Lys Tyr Ser Tyr Leu		
100	105	110
Lys Val Thr Pro Ser Tyr Ala Tyr Ala Thr Pro Lys Tyr Lys Ser Arg		
115	120	125
Ile Asn Gln Met Cys Lys Lys Ser Arg Tyr His Lys Thr Pro Val Ile		
130	135	140
Ile Asp Gly Leu		
145		

&lt;210&gt; 7346

&lt;211&gt; 101

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7346

Val Val Leu Tyr Met Glu Gln Ser Pro Lys Val Gln Asn Lys Ile Thr		
1	5	10
Lys Ile Leu Glu Ile Leu Glu Tyr Ile Glu Cys Ile Pro Thr Lys Tyr		15
20	25	30
Leu Lys His Ile Glu Gly Thr Asp Gly Leu Tyr Glu Met Arg Ile Thr		
35	40	45
Leu Gly Ser Asp Ile Phe Arg Val Phe Cys Phe Phe Asp Lys Gly Arg		
50	55	60
Leu Val Val Leu Leu Ser Gly Phe Gln Lys Lys Thr Gln Lys Thr Pro		
65	70	75
		80

Lys Lys Glu Ile Asp Lys Ala Val Arg Leu Met Ala Gln Tyr Tyr Asp  
 85 90 95  
 Asp Lys Lys Arg Arg  
 100

<210> 7347

<211> 316

<212> PRT

<213> B.fragilis

<400> 7347

Phe His Thr His Ile Asn Phe Val Met Gly Gln Gln Ser Arg Glu Ser  
 1 5 10 15  
 Leu Asp Tyr Glu Lys Ile Ile Leu Lys Asn Met Ala Asn Thr Asn Met  
 20 25 30  
 Glu His Gly Glu Ile Ile Leu Tyr Gln Pro Asp Asn Thr Ile Lys Leu  
 35 40 45  
 Glu Val Arg Ile Glu Asn Glu Thr Val Trp Leu Thr Gln Ala Gln Ile  
 50 55 60  
 Val Asn Leu Phe Gln Ser Ser Lys Ala Asn Ile Ser Glu His Ile Arg  
 65 70 75 80  
 Asn Ile Tyr Asp Ser Asp Glu Leu Ser Ala Glu Ser Thr Val Arg Lys  
 85 90 95  
 Phe Arg Thr Val Arg Met Glu Gly Asn Arg Lys Val Thr Arg Ile Leu  
 100 105 110  
 Glu Tyr Tyr Asn Leu Asp Met Ile Ile Ser Val Gly Tyr Arg Val Asn  
 115 120 125  
 Ser Lys Arg Gly Val Gln Phe Arg Gln Trp Ser Thr Gly Val Leu Lys  
 130 135 140  
 Glu Tyr Leu Leu Lys Gly Tyr Ala Ile Asn Gln Arg Val Glu Gln Leu  
 145 150 155 160  
 Glu Asn Lys Ala Asn Thr His Asp Arg Gln Leu Glu Glu Leu Thr Asn  
 165 170 175  
 Lys Val Asp Phe Phe Val Arg Thr Ser Leu Pro Pro Ile Glu Gly Val  
 180 185 190  
 Phe Phe Asn Gly Gln Ile Phe Asp Ala Tyr Val Phe Ser Ala Gln Leu  
 195 200 205  
 Ile Lys Ser Ala Lys Ser Ser Leu Val Leu Ile Asp Asn Phe Val Asp  
 210 215 220  
 Glu Ser Val Leu Leu Leu Ser Lys Arg Leu Pro Gly Val Thr Ser  
 225 230 235 240  
 Ile Ile Tyr Thr Lys Gln Val Thr Pro Gln Leu Glu Leu Asp Leu Thr  
 245 250 255  
 Lys His Asn Ser Gln Tyr Pro Pro Ile Asp Ile Arg Thr Tyr Gln His  
 260 265 270  
 Ala His Asp Arg Phe Leu Ile Ile Asp Asn Leu Glu Val Tyr His Ile  
 275 280 285  
 Gly Ala Ser Leu Lys Asp Leu Gly Lys Lys Leu Phe Ala Phe Ser Lys  
 290 295 300  
 Met Glu Met Pro Ala Lys Ile Ile Thr Asp Leu Leu  
 305 310 315

<210> 7348

<211> 89

<212> PRT

<213> B.fragilis

<400> 7348

His Arg Val Lys Ala Cys Ser Leu Asp Val Asn Lys Lys Phe Phe Lys

1	5	10	15												
Cys	Lys	Arg	Leu	Val	Ile	Cys	Ala	Gln	Glu	Pro	Asp	Asn	Leu	Gln	Lys
			20			25			30						
Thr	Leu	Thr	Met	Leu	Ile	Glu	Glu	Arg	Tyr	Lys	Asp	Glu	Asp	Thr	Gly
			35			40			45						
Ser	Gly	Gly	Val	Asn	Ser	Leu	Pro	Lys	Pro	Glu	Leu	Ser	Tyr	Ser	Ala
			50			55			60						
Gly	Val	Tyr	Phe	Phe	Cys	Leu	Tyr	Phe	Ser	Asp	Ser	Leu	Ser	Val	Thr
			65			70			75			80			
Asp	Arg	Asn	Pro	Leu	Lys	Leu	Arg	Phe							
				85											

&lt;210&gt; 7349

&lt;211&gt; 60

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7349

Ala	Asn	His	Lys	His	Gln	Tyr	Ile	Lys	Glu	Leu	Ser	Leu	Gln	Glu	Arg
						1	5		10						15
Ala	Gly	Ile	Lys	Arg	Arg	Ile	Val	Glu	Leu	Phe	His	Ile	Tyr	Glu	Glu
						20		25					30		
Gln	Phe	Tyr	Asn	Pro	Leu	Tyr	Lys	Thr	Ser	Ile	Ser	Gln	Asn	Arg	Asn
						35		40				45			
Gln	Ala	Leu	Arg	Gln	Ile	Cys	Cys	Lys	Lys	Thr	Lys				
						50		55			60				

&lt;210&gt; 7350

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7350

Val	Leu	Asp	Asn	Ala	Tyr	Thr	Ser	Ile	Phe	Gln	Arg	Gln	Leu	Ile	Pro
						1	5		10					15	
Glu	Glu	Val	Thr	Thr	Leu	Ala	Asn	Thr	Ser	Phe	Ala	Ala	Thr	Ser	Gly
						20		25				30			
Lys	Gly	Gly	Thr	Ile	Ser	Gly	Val	Pro	Ser	Ser	Ala	Gln	Tyr	Leu	Tyr
						35		40			45				
Phe	Met	Ala	Asn	Ile	Lys	Thr	Asp	Val	Gly	Gln	Val	Phe	Pro	Ala	Val
						50		55			60				
Glu	Gly	Thr	Thr	Ser	Ala	Asp	Ala	Arg	Leu	Arg	Leu	Asn	Arg	Leu	Gln
						65		70			75		80		
Gly	Thr	Ala	Pro	Ser	Asp	Trp	Thr	Ala	Asn	Ala	Phe	Val	Asp	Tyr	Cys
						85		90			95				
Thr	Pro	Leu	Ala	Ser	Ala	Leu	Ser	Phe	Tyr	Pro	Asp	Val	Thr	Ile	Ser
						100		105			110				
Thr	Pro	Arg	Tyr	Pro	Arg	Met	Ser	Glu							
						115		120							

&lt;210&gt; 7351

&lt;211&gt; 498

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (489), (490), (491), (492), (495)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7351

Pro Met Arg Asn Leu Arg Ala Ile Leu Ile Val Leu Leu Cys Leu Cys  
 1 5 10 15  
 Gly Ile Tyr Val Gln Ala Gln Gln Leu Glu Ile Lys Gly Leu Val Thr  
 20 25 30  
 Ser Ser Glu Asp Lys Gln Pro Leu Ile Gly Ala Thr Val Ala Val Lys  
 35 40 45  
 Gly Val Pro Gly Arg Gly Val Val Thr Asp Met Asp Gly Arg Tyr Thr  
 50 55 60  
 Leu Lys Ile Glu Pro Ser Asp Lys Ile Leu Val Ile Ser Tyr Ile Gly  
 65 70 75 80  
 Met Lys Ser Ser Glu Val Lys Val Pro Lys Asn Gly Val Leu Asn Val  
 85 90 95  
 Val Leu Gln Pro Glu Ser Leu Asn Leu Asp Glu Val Val Val Thr Gly  
 100 105 110  
 Tyr Gly Asn Phe Ser Lys Ser Ser Phe Thr Gly Ser Ala Asn Thr Leu  
 115 120 125  
 Arg Ala Asp Met Leu Lys Asn Val Pro Val Leu Ser Val Glu Gln Lys  
 130 135 140  
 Leu Gln Gly Met Thr Thr Gly Val Asn Ile Thr Ser Gly Ser Gly Gln  
 145 150 155 160  
 Pro Gly Ala Asn Gln Ser Ile Arg Ile Arg Gly Met Gly Ser Phe Asn  
 165 170 175  
 Ala Ser Asn Glu Pro Leu Phe Val Ile Asp Gly Ile Pro Val Thr Ser  
 180 185 190  
 Gly Ser Met Gly Ala Gly Thr Gly Ala Asp Ala Ala Tyr Met Asn Asn  
 195 200 205  
 Ala Lys Thr Asn Val Met Ser Thr Leu Asn Pro Ala Asp Ile Glu Asn  
 210 215 220  
 Ile Thr Val Ile Lys Asp Ala Ala Ala Ser Leu Tyr Gly Ser Arg  
 225 230 235 240  
 Ala Ala Asn Gly Val Ile Leu Ile Thr Thr Lys Lys Gly Ala Val Gly  
 245 250 255  
 Arg Thr Lys Val Thr Leu Ser Ala Ser Gly Gly Phe Ser Asn Ala Ala  
 260 265 270  
 Val Asn Phe Arg Pro Thr Leu Asn Gly Glu Gln Arg Arg Glu Met Ile  
 275 280 285  
 Tyr Glu Gly Leu Tyr Asn Ser Ala Val Asp Lys Gly Leu Gln Ser Pro  
 290 295 300  
 Glu Ala Tyr Ala Asn Ala Asn Ile Asp Thr Tyr Ala Gly Ile Pro Glu  
 305 310 315 320  
 Leu Gly Tyr Thr Asp Trp Arg Lys Glu Leu Ile Arg Thr Ala His Asn  
 325 330 335  
 Gln Asn Tyr Glu Val Thr Ala Ser Gly Gly Asn Glu Arg Thr Thr Phe  
 340 345 350  
 Tyr Ala Ser Leu Gly Phe Asn Arg Gln Glu Gly Leu Val Glu Asn Ser  
 355 360 365  
 Asn Leu Asp Arg Tyr Ser Ala Arg Leu Asn Met Thr His Lys Ile Gly  
 370 375 380  
 Ser Arg Val Glu Val Gly Gly Asn Met Met Phe Thr Gln Ile Ser Gln  
 385 390 395 400  
 Glu Met Asn Glu Glu Arg Gly Ser Asn Ile Asn Pro Phe Leu Cys Val  
 405 410 415  
 Ala Val Ser Ala Thr Pro Ser Met Pro Val Arg Asp Ala Ser Gly Asn  
 420 425 430  
 Tyr Val Gly Ser Tyr Ala Gly Thr Asn Val Asn Pro Leu Arg Asp Ile  
 435 440 445  
 Arg Thr Asp Tyr Asn Arg Ser Arg Met Thr Arg Met Phe Ser Thr Gly

450	455	460
Tyr Ala Ser Val Asp Ile Ile Lys Gly Leu Lys Leu Lys Glu Val Phe		
465	470	475
Thr Gly Ala Ala Lys Gly Ala His Xaa Xaa Xaa Xaa Ser Lys Xaa Phe		
485	490	495
Ser Arg		

&lt;210&gt; 7352

&lt;211&gt; 332

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7352

Lys His Gly Lys Pro Val Leu Lys Pro Ile Cys Ser Val Thr Val Ser		
1	5	10
Ile Ser Lys Glu Tyr Thr Ile Arg Arg Ile Pro Arg Thr Cys Ser Pro		
20	25	30
Pro Tyr Arg Val Cys Arg Glu Pro Val Pro Gly Ile Gly Asn Leu Gly		
35	40	45
Glu Ile Glu Asn Lys Gly Val Glu Leu Met Ala Ser Trp Arg Asp Gln		
50	55	60
Ile Gly Asp Trp Gly Tyr Ser Val Ser Ala Asn Leu Thr Thr Ile Ser		
65	70	75
Asn Lys Val Lys Ser Leu Val Gln Asp Gly Tyr Ser Ile Ile Ala Gly		
85	90	95
Asp Lys Ser Gln Ser Tyr Thr Met Ala Gly Tyr Pro Ile Gly Tyr Phe		
100	105	110
Tyr Gly Tyr Lys Val Ala Gly Val Tyr Gln Asn Gln Ala Glu Ile Asp		
115	120	125
Ala Ser Pro Val Asn Thr Leu Ala Thr Val Thr Pro Gly Asp Leu Lys		
130	135	140
Phe Ala Asp Val Asn Gly Asp Gly Lys Ile Thr Pro Asp Asp Arg Thr		
145	150	155
Lys Ile Gly Asp Pro Thr Pro Asp Val Thr Tyr Gly Ile Ser Leu Gly		
165	170	175
Leu Ser Tyr Lys Asn Trp Glu Leu Ser Met Glu Met Met Gly Gln Gly		
180	185	190
Gly Asn Gln Ile Tyr Arg Thr Trp Asp Asn Tyr Asn Trp Ala Gln Phe		
195	200	205
Asn Tyr Met Glu Gln Arg Leu Asp Arg Trp His Gly Glu Gly Thr Ser		
210	215	220
Asn Thr Gln Pro Leu Leu Asn Thr Lys His Ala Ile Asn Ser Glu Asn		
225	230	235
Ser Glu Tyr Phe Ile Glu Asp Gly Ser Phe Phe Arg Ile Arg Asn Leu		
245	250	255
Gln Leu Ala Tyr Ser Phe Asp Lys Thr Leu Leu Ser Lys Ile Arg Met		
260	265	270
Gln Ala Leu Lys Val Tyr Val Asn Ile Gln Asn Leu Lys Thr Trp Lys		
275	280	285
His Asn Thr Gly Tyr Thr Pro Gln Ile Gly Gly Ser Ala Ile Ala Phe		
290	295	300
Gly Val Asp Asn Gly Thr Tyr Pro Val Pro Ala Val Tyr Thr Phe Gly		
305	310	315
Ile Asn Leu Thr Phe Cys Leu His Gln Gly Ala Ala		
325	330	

&lt;210&gt; 7353

&lt;211&gt; 89

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7353

His	Thr	Phe	Cys	Gln	Leu	Ser	Phe	Arg	Tyr	Ser	Ile	Val	Ile	Ser	Thr
1				5					10					15	
Ala	Lys	Val	Ser	Asn	Glu	Thr	Asn	Lys	Ser	Arg	Lys	Arg	Cys	Glu	Gln
					20			25					30		
Met	Glu	Thr	Pro	Cys	Thr	Phe	Asn	Ile	Tyr	Arg	Thr	Trp	Asn	Pro	Thr
	35					40				45					
Asn	Val	Glu	Glu	Ala	Ser	Ser	Met	Ile	Tyr	Leu	Pro	Tyr	Asp	Gly	Cys
	50					55				60					
Trp	Ile	Leu	Tyr	Asn	Cys	Met	Glu	Leu	Cys	Ala	Leu	Ile	Lys	Glu	Leu
	65					70			75				80		
Phe	Glu	Leu	His	Leu	Leu	Ser	Asn	Cys							
					85										

&lt;210&gt; 7354

<211> 68  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7354

Thr	Glu	Tyr	Arg	Ser	Lys	Asn	Leu	Asn	Gly	Phe	Ala	Arg	Met	Ile	Glu
1					5				10				15		
Ile	Ser	Pro	Gly	Arg	Ile	Ile	Tyr	Gly	Arg	Ser	Ile	Gln	Arg	Ala	Ile
					20			25				30			
Tyr	Lys	Thr	Tyr	Asn	Phe	Tyr	Gln	Lys	Ser	Ile	Lys	Val	Leu	Ile	Ala
	35					40				45					
Ala	Thr	Glu	Tyr	Tyr	Ser	Leu	Ile	Arg	Gly	Tyr	Leu	Gly	Val	Glu	Ile
	50					55			60						
Val	Thr	Ser	Gly												
	65														

&lt;210&gt; 7355

<211> 101  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7355

Lys	Lys	Glu	Val	Met	Met	Asp	Ile	Thr	Thr	Leu	Asp	Gln	Phe	Lys	Asp
1					5				10				15		
Glu	Ile	Tyr	Gly	Val	Lys	Gly	Thr	Pro	Arg	Arg	Asp	Asn	Leu	Glu	Arg
					20			25				30			
Glu	Leu	Glu	Thr	Leu	Arg	Ile	Gly	Val	Gln	Ile	Arg	Asn	Ala	Arg	Gln
					35			40			45				
Lys	Lys	Glu	Met	Thr	Gln	Ala	Gln	Leu	Ala	Glu	Arg	Ile	Asn	Lys	Lys
					50			55			60				
Arg	Thr	Phe	Ile	Ser	Lys	Val	Glu	Asn	Asp	Gly	Gly	Asn	Leu	Thr	Leu
	65					70			75			80			
Lys	Thr	Leu	Ile	Asp	Ile	Val	Glu	Arg	Gly	Leu	Gly	Gly	Lys	Leu	Asn
					85			90				95			
Ile	Glu	Val	Lys	Ile											
				100											

&lt;210&gt; 7356

<211> 373  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7356

Ile	His	Lys	Phe	Met	Pro	Arg	Thr	Ala	Lys	Lys	Gly	Phe	Thr	Tyr	Tyr
1			5						10					15	
Gly	Phe	Asp	Thr	Asp	His	Phe	Tyr	Asp	Pro	Lys	Val	Lys	Arg	Leu	Lys
			20					25					30		
Asn	Lys	Phe	Gly	Met	Glu	Gly	Trp	Ala	Val	Phe	His	Phe	Ile	Val	Asn
			35						40			45			
Glu	Ile	His	Arg	Val	Glu	Gly	Tyr	Tyr	Met	Ile	Met	Asp	Ser	Asp	Gly
			50					55			60				
Leu	Phe	Asp	Val	Ser	Asp	Tyr	Ser	Arg	Met	Asp	Glu	Gln	Arg	Ile	Ala
			65					70		75			80		
Gly	Ile	Val	Asp	Tyr	Cys	Ala	Glu	Leu	Gly	Leu	Phe	Asp	Lys	Gly	Leu
			85					90				95			
Trp	Arg	Ser	Arg	Gln	Val	Leu	Thr	Ser	Glu	Glu	Ile	Gln	Asn	Arg	Tyr
			100					105				110			
Met	Gly	Ile	Cys	Lys	Ser	Ile	His	Arg	Lys	Pro	Ser	Ile	Ser	Asp	Asp
			115					120			125				
Tyr	Leu	Leu	Leu	Asn	Ala	Ala	Ala	Pro	Ala	Ala	Thr	Ser	Ser	Pro	Gln
			130					135			140				
Val	Ala	Ala	Pro	Cys	Pro	Ala	Thr	His	Thr	Ala	Pro	Val	Ala	Glu	Pro
			145					150		155			160		
Val	Arg	Ser	Gly	Glu	Lys	Glu	Lys	Asp	Thr	Glu	Leu	Met	Gln	Ala	Ile
			165					170				175			
Ala	Asp	Phe	Lys	Arg	Arg	Leu	Gln	Glu	Pro	Lys	Ser	Ser	Ala	Gly	Val
			180					185			190				
Val	Arg	Glu	Glu	Ser	Gly	Ile	Ile	Arg	Glu	Asn	Arg	Pro	Gln	Asn	Lys
			195					200			205				
Ile	Lys	Glu	Asn	Ile	Ser	Ser	Pro	Asn	Pro	Ser	Gly	Glu	Ser	Ser	Tyr
			210					215			220				
Thr	Pro	Glu	Arg	Glu	Glu	Glu	Arg	Asn	Ser	Leu	Ser	Gly	Lys	Leu	Gln
			225					230		235			240		
Tyr	Leu	Gly	Val	Asp	Ser	Asn	Val	Ile	Gln	Trp	Val	Arg	Leu	Leu	Lys
			245					250			255				
Ser	Arg	Tyr	Pro	Asp	Phe	Pro	Ile	Glu	Lys	Ala	Ile	Ser	Asp	Met	Glu
			260					265			270				
Gln	Ser	Asn	Phe	Gln	Leu	Thr	Lys	Glu	Asn	Tyr	Leu	Tyr	Pro	Leu	Ile
			275					280			285				
Lys	Asn	Tyr	Ile	Ala	Lys	Tyr	Asn	Ala	Asp	His	Gly	Ser	Glu	Glu	Arg
			290					295			300				
Ala	Arg	Gln	Gln	Glu	Glu	Ile	Leu	Arg	Thr	Arg	Arg	Lys	Thr	Leu	Glu
			305					310		315			320		
Leu	Leu	Gly	Val	Pro	Val	Lys	Asp	Gln	Gln	Glu	Ile	Leu	Gln	Leu	Ala
			325					330			335				
Ser	Val	Ala	Pro	Leu	Val	Leu	Asp	Thr	Ala	Leu	Lys	Glu	Thr	Trp	Gly
			340					345			350				
Asn	Lys	Lys	Ile	Lys	Ser	Pro	Thr	Met	Phe	Leu	Leu	Ser	Arg	Met	Arg
			355					360			365				
Arg	Ala	Val	Ser	Ala											
			370												

&lt;210&gt; 7357

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7357

Ile	Met	Asp	Thr	Glu	Asn	Leu	Arg	Lys	Lys	Tyr	Ile	Leu	Trp	Ser	Asn
1				5					10				15		

Ile Val Asp Leu Arg Ser Arg Gly Ile Asn Ile Thr Arg Thr Ala His  
 20 25 30  
 Cys Leu Gly Val Ser Arg Asp Thr Val Lys His Leu Gln Ser Leu Ser  
 35 40 45  
 Ser Asp Glu Leu Phe Arg Lys Tyr Gln Glu Ser Arg Arg Cys Lys Leu  
 50 55 60  
 Gln Asn Tyr Glu Gln Ala Val Val Ser Leu Leu Phe Thr Phe Pro Ser  
 65 70 75 80  
 Thr Ser Ser Ser Arg Val His Asp Tyr Leu Lys Glu His Tyr Pro Asp  
 85 90 95  
 Phe Pro Asn Val Cys Asp Lys Thr Val His Asn Tyr Val Gln Phe Ile  
 100 105 110  
 Arg Lys Lys His His Leu Pro Phe Arg Ser Cys Arg Leu  
 115 120 125

&lt;210&gt; 7358

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7358

Tyr Met Pro Thr Ile Phe Gln Ile Pro Thr Phe Ile Gln Ile Leu Glu  
 1 5 10 15  
 Phe Ile Gly Thr Phe Ala Phe Ala Ile Ser Gly Ile Arg Leu Ala Ser  
 20 25 30  
 Ala Lys Gln Phe Asp Trp Phe Gly Ala Tyr Val Ala Gly Val Ala Val  
 35 40 45  
 Ala Ile Gly Gly Thr Ile Arg Asp Val Leu Leu Asp Val Thr Pro  
 50 55 60  
 Phe Trp Met Thr Asn Pro Ile Tyr Leu Ile Cys Ser Ala Leu Ala Leu  
 65 70 75 80  
 Leu Trp Val Ile Phe Phe Arg Lys His Leu Ile His Met His Asn Thr  
 85 90 95  
 Phe Phe Ile Phe Asp Ser Ile Gly Leu Ala Leu Phe Thr Val Val Gly  
 100 105 110  
 Ile Ser Lys Thr Ile Asp Leu Gly Tyr Ala Phe Trp Val Ala Ile Ile  
 115 120 125  
 Met Gly Thr Met Thr Gly Ala Ala Gly Gly Val Ile Arg Asp Val Phe  
 130 135 140  
 Ile Asn Glu Ile Pro Leu Ile Phe Arg Lys Glu Ile Tyr Ala Met Ala  
 145 150 155 160  
 Cys Val Ile Gly Gly Val Ile Tyr Trp Gly Leu Asp Arg Leu Gly Val  
 165 170 175  
 Asp Ala Ala Leu Thr Gln Val Ile Ser Gly Cys Cys Ile Phe Val Val  
 180 185 190  
 Arg Ala Leu Ala Val Lys Tyr Gln Ile Cys Leu Pro Ile Leu Lys Gly  
 195 200 205  
 Glu

&lt;210&gt; 7359

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7359

Lys Lys Asn Leu Ile His Asn Arg Ile Glu Met Asp Ile Asn Gln Met  
 1 5 10 15  
 Ile Lys Lys Ala Asp Asp Ala Tyr Ile Asn Tyr Arg His Arg Cys Glu

20	25	30
Ser Leu Ala Lys Glu Ala Gln Lys Tyr Ile Asp Trp Asp Asp Lys Val		
35	40	45
Ser Cys Glu His Leu Pro Ala Asp Gly Leu Cys Ile Leu Ala Thr Val		
50	55	60
Pro Ser Asp Cys Asn Met Ser Gly Met Pro Glu Cys Val Cys Pro Ala		
65	70	75
Asp Pro Phe Phe Ser Ser Val Lys Ala Lys Glu Lys Ile Thr Pro Asp		80
85	90	95
Glu Phe Lys Glu Ile Ser Ile		
100		

&lt;210&gt; 7360

&lt;211&gt; 446

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7360

Asn Ile Thr Tyr Gly Thr Thr Ala Asn Gly Tyr Ser His Thr Gly Tyr		
1	5	10
Ile Ser Ala Lys Pro Ile Glu Leu Phe Gly Arg Cys Lys Thr Asn Thr		15
20	25	30
Thr Asn Gly Lys Ser Glu Cys Ser Asp Lys Leu Gln Asn Leu Asp Lys		
35	40	45
Ser Arg Asn Leu Lys Asp Ser Trp His Ile Leu Ser Phe Leu Cys Ala		
50	55	60
Lys Lys Gln Ile Ile Pro Gln Glu Ser Val Asn Leu Phe Leu Glu Asn		
65	70	75
Cys Lys Asn Thr Lys Met Lys Ile Thr Ile Val Ala Gly Ala Arg Pro		80
85	90	95
Asn Phe Met Lys Ile Ala Pro Ile Thr Arg Ala Ile Asp Ala Ala Lys		
100	105	110
Ala Gln Gly Lys Arg Ile Ser Tyr Arg Leu Val Tyr Thr Gly Val Glu		
115	120	125
Asn Asp Asn Ser Leu Asp Ala Ser Leu Phe Ala Asp Leu His Met Lys		
130	135	140
Ala Pro Asp Ala Tyr Leu Gly Val Asn Gly Asn Asn Pro Thr Glu Leu		
145	150	155
Thr Ala Gly Ile Met Ile Ala Phe Glu Arg Glu Leu Thr Glu Asn Pro		160
165	170	175
Thr His Val Val Leu Val Val Asp Asp Leu Thr Ala Thr Met Ser Cys		
180	185	190
Ala Ile Val Ala Lys Lys Gln Asn Ile Lys Val Ala His Leu Val Ala		
195	200	205
Gly Thr Arg Ser Phe Asp Met Ser Met Pro Lys Glu Ile Asn Arg Met		
210	215	220
Ile Thr Asp Gly Leu Ser Asp Tyr Leu Phe Thr Ala Gly Met Val Ala		
225	230	235
Asn Arg Asn Leu Asn Gln Thr Gly Thr Glu Asn Glu Thr Val Tyr Tyr		240
245	250	255
Val Gly Asn Ile Leu Ile Asp Thr Ile Arg Tyr Asn Arg Asn Arg Leu		
260	265	270
Ile Lys Pro Val Trp Phe Ser Val Leu Gly Leu Lys Glu His Glu Tyr		
275	280	285
Ile Leu Leu Thr Leu Asn Arg His Val Leu Leu Asn Asn Lys Glu Asn		
290	295	300
Leu Gln Glu Leu Met Glu Thr Leu Leu Lys Lys Ala Asn Gly Met Pro		
305	310	315
Ile Val Ala Pro Leu His Thr Tyr Val Arg Asp Ala Ile Lys Ala Leu		320

325	330	335
Gly Ile Thr Ala Pro Asn Leu His Ile Met Pro Thr Gln Ser Tyr Leu		
340	345	350
Ser Phe Gly Tyr Leu Met Asn Gln Ala Lys Ala Ile Val Thr Asp Ser		
355	360	365
Gly Asn Val Ala Glu Glu Ala Thr Phe Leu Gly Ile Pro Cys Ile Thr		
370	375	380
Leu Asn Thr Phe Ala Glu His Pro Glu Thr Trp Arg Thr Gly Thr Asn		
385	390	395
Glu Leu Val Gly Glu Asp Pro Ala Ala Leu Gly Ala Cys Met Asp Lys		
405	410	415
Leu Met Asn Gly Glu Trp Lys Gln Gly Thr Leu Pro Glu Arg Trp Asp		
420	425	430
Gly Arg Thr Ala Glu Arg Ile Val Gln Ile Leu Leu Gly Glu		
435	440	445

&lt;210&gt; 7361

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7361

Met Ala Ile Glu Asn Thr Glu Gly Tyr Pro Leu Ile Ser Trp Arg Ala		
1	5	10
Ser Ile Ile Lys Thr Lys Tyr Met Asn Thr Gln Arg Gln Thr Gly Thr		
20	25	30
Cys Arg Ser Leu Ser Gly His Ala Gln Arg His Gly Arg Glu Val Arg		
35	40	45
Pro Ser Tyr Glu Ile Ser Thr Ser Gln Phe Ser Asp Met Lys Val Arg		
50	55	60
Arg Leu Thr Arg Asn Tyr Gly Phe Gly Gly Tyr Ser Ile Tyr Arg Tyr		
65	70	75
Leu Val Ser Glu Ala Leu Tyr Lys Gly Glu Tyr Phe Leu Pro Trp Cys		
85	90	95
Glu Glu Thr Ala Arg Ala Val Ala Ser Tyr Trp Asn Ala Ser Leu Glu		
100	105	110
Asp Ile Thr Arg Ile Val Asp Gly Cys Val Gln Val Gly Leu Phe Asn		
115	120	125
Asp Glu Leu Tyr Arg Lys His Gly Val Leu Thr Ser Ala Ala Ile Gln		
130	135	140
Gln Asp Tyr Leu Lys Leu Cys Gly Met Gly Tyr Ile Gln Glu Glu Phe		
145	150	155
Ala Leu Ser Ala Ser		
165		

&lt;210&gt; 7362

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7362

Asn Ser Leu Glu Met Lys Ile Thr Ile Ser Glu Lys Val Glu Gln Phe		
1	5	10
Ile Ser Glu Arg Thr Asp Lys Ala Gly Gly Tyr Tyr Glu Tyr Ile Asp		
20	25	30
Val Ile Ala Gln Lys His Ala Leu Glu Ala Ala Glu Met Val Lys Gln		
35	40	45
Glu Thr Lys Glu Lys Cys Gln Ile Ala Phe Arg Asn Phe Met Leu Arg		
50	55	60

Ala Thr Leu Ala Asn Val Ser Gly Glu Ser Leu Asp Phe Glu Lys Glu  
 65 70 75 80  
 Phe Ala Asp Thr Met Ser Gln Ile  
 85

<210> 7363

<211> 320

<212> PRT

<213> B.fragilis

<400> 7363

Phe Val Leu Glu Thr Leu Lys Arg Glu Phe Phe Glu Asn Tyr Asn Asn  
 1 5 10 15  
 Tyr Met Leu Met Thr Ser Gln Glu Ala Asn Ser Ile Pro Leu Glu Asp  
 20 25 30  
 Ile Leu Ser Arg Tyr Gly Tyr Glu Pro Ser Arg Arg Tyr Gly Gly Tyr  
 35 40 45  
 Asp Met Tyr Arg Ser Pro Phe Arg Cys Asp Ser Ser Pro Ser Phe Lys  
 50 55 60  
 Val Phe Arg Asn Glu Asn Arg Trp Tyr Asp Phe Gly Asp Ser Ser His  
 65 70 75 80  
 Gly Arg Val Val Asp Leu Val Met Arg Ile Gln Asn Cys Ser Phe Pro  
 85 90 95  
 Gln Ala Met Lys Glu Ile Glu Gly Leu Gly Phe Ser Ser Gly Met Ile  
 100 105 110  
 Pro Gln Pro Arg Pro Val Thr Val Thr Val Gln Lys Ala Ser Gly Met  
 115 120 125  
 Thr Leu Leu Lys Ile Ile Pro Val Glu Asn Gly His Leu Leu Asp Tyr  
 130 135 140  
 Ala Ala Ser Arg Gly Ile Asp Ala Asp Ile Val Arg Glu His Cys Val  
 145 150 155 160  
 Glu Val His Tyr Cys Phe Glu Lys Asn Pro Arg Glu Lys Tyr Ala Leu  
 165 170 175  
 Gly Phe Ala Asn Asp His Gly Gly Phe Glu Leu Arg Asn Ser Met Phe  
 180 185 190  
 Lys Gly Cys Ala Thr Ala Lys Asp Ile Thr Gly Leu Ala Ala Gly Asn  
 195 200 205  
 Arg Ser Cys Ala Val Phe Glu Gly Phe Phe Asp Leu Leu Ser Phe Lys  
 210 215 220  
 Gln Tyr Ala Lys Asp His Pro Gln Met Pro Ala Leu Arg Lys Leu Asp  
 225 230 235 240  
 Leu Cys Val Leu Asn Ser Thr Ser Ile Val Glu Arg Ser Lys Asp Phe  
 245 250 255  
 Leu Ser Arg Tyr Glu Lys Val His Ala Phe Leu Asp Asn Asp Ser Pro  
 260 265 270  
 Gly Arg Glu Ala Leu Arg Lys Met Arg His Phe Leu Pro Lys Asp Thr  
 275 280 285  
 Val Phe Val Asn Glu Ala Glu Arg Leu Tyr Pro Ser Cys Asn Asp Phe  
 290 295 300  
 Asn Glu Phe Leu Gln Lys Ile Lys Cys Pro Ala Ser Gly Arg Glu Met  
 305 310 315 320

<210> 7364

<211> 731

<212> PRT

<213> B.fragilis

<400> 7364

Asp Glu Val Cys Met Lys Gln Gln Tyr Ser Lys Leu Leu Val Ile

1	5	10	15												
Phe	Leu	Leu	Ser	Ala	Pro	Gln	Ala	Phe	Ala	Gln	Leu	Lys	Gly	Val	
	20				25						30				
Ile	Thr	Asp	Ser	Ile	Ser	His	Glu	Pro	Leu	Met	Tyr	Ile	Ser	Val	Phe
	35					40					45				
Tyr	Glu	Gly	Lys	Gly	Val	Gly	Gly	Ile	Ser	Asn	Ala	Asn	Gly	Glu	Tyr
	50				55					60					
Lys	Val	Glu	Thr	Arg	Lys	Gly	Trp	Asn	Glu	Leu	Thr	Phe	Ser	Ala	Val
	65				70				75			80			
Gly	Tyr	Ile	Thr	Lys	Lys	Val	Lys	Ile	Pro	Ala	Gly	Ala	Lys	Glu	Leu
	85					90			95						
Asn	Val	Val	Leu	Ser	Pro	Asp	Asp	Val	Met	Leu	Glu	Glu	Val	Val	Val
	100					105					110				
Lys	Pro	Lys	Lys	Glu	Lys	Tyr	Ser	Arg	Lys	Asn	Asn	Pro	Ala	Val	Glu
	115					120					125				
Phe	Met	Arg	Lys	Val	Ile	Asp	His	Lys	Lys	Ala	Gln	Lys	Leu	Glu	Thr
	130					135					140				
Asn	Asp	Tyr	Tyr	Gln	Tyr	Ser	Lys	Tyr	Gln	Lys	Met	Lys	Met	Ser	Leu
	145					150			155			160			
Asn	Asp	Val	Thr	Pro	Glu	Ser	Leu	Glu	Lys	Gly	Ile	Tyr	Lys	Lys	Phe
		165					170					175			
Ser	Phe	Leu	Lys	Asp	Gln	Val	Glu	Val	Ser	Pro	Glu	Thr	Asn	Lys	Leu
		180					185					190			
Ile	Leu	Pro	Ile	Ser	Val	Gln	Glu	Thr	Ser	Ser	Lys	Thr	Ile	Tyr	Arg
		195					200					205			
Lys	Asp	Pro	Glu	Ser	Lys	Lys	Thr	Ile	Ile	Glu	Gly	Met	Asn	Ser	Asn
		210					215					220			
Gly	Val	Glu	Glu	Phe	Phe	Ser	Thr	Gly	Asp	Met	Leu	Gly	Thr	Ile	Leu
	225					230			235			240			
Asn	Asp	Val	Phe	Ala	Asp	Ile	Asn	Ile	Tyr	Asp	Asp	Asp	Ile	Arg	Leu
		245					250					255			
Leu	Gln	Arg	Arg	Phe	Val	Ser	Pro	Ile	Gly	Ser	Gly	Ala	Ile	Ser	Phe
		260					265					270			
Tyr	Lys	Phe	Tyr	Leu	Met	Asp	Thr	Val	Met	Val	Asp	Lys	Asn	Lys	Cys
		275					280					285			
Val	His	Leu	Thr	Phe	Val	Pro	Gln	Asn	Pro	Gln	Asp	Phe	Gly	Phe	Thr
		290					295					300			
Gly	His	Leu	Tyr	Val	Leu	Asp	Asp	Ser	Thr	Tyr	Ala	Val	Lys	Lys	Cys
	305					310			315			320			
Thr	Met	Asn	Leu	Pro	Lys	Lys	Thr	Gly	Val	Asn	Phe	Val	Glu	Asn	Leu
			325				330					335			
Asp	Val	Val	Gln	Gln	Tyr	Glu	Gln	Leu	Pro	Asn	Gly	Asn	Trp	Val	Leu
			340				345					350			
Thr	Asp	Asp	Asp	Met	Thr	Val	Asp	Leu	Leu	Val	Met	Lys	Ala	Ile	Gln
			355				360					365			
Gly	Ile	Gln	Val	Lys	Arg	Thr	Thr	Lys	Tyr	Ser	Asn	Tyr	Val	Phe	Glu
		370				375					380				
Pro	Ile	Glu	Pro	Arg	Leu	Phe	Arg	Leu	Lys	Gly	Asn	Val	Ile	Lys	Glu
	385				390			395					400		
Ala	Asp	Met	Leu	Thr	Lys	Ser	Asp	Glu	Tyr	Trp	Ala	Gly	Val	Arg	Gln
			405				410					415			
Val	Pro	Leu	Thr	Lys	Thr	Glu	Ser	Ser	Met	Asp	Leu	Phe	Met	Asn	Arg
			420				425					430			
Leu	Glu	Gln	Ile	Pro	Gly	Phe	Lys	Tyr	Val	Ile	Phe	Gly	Ala	Lys	Ala
			435				440					445			
Leu	Ile	Glu	Asn	Tyr	Val	Glu	Thr	Gly	Thr	Lys	Lys	His	Pro	Ser	Lys
		450				455					460				
Phe	Asp	Phe	Gly	Pro	Ile	Asn	Thr	Met	Ile	Ser	Ser	Asn	Tyr	Val	Asp
	465				470					475			480		

Gly Thr Arg Phe Arg Leu Ser Gly Met Thr Thr Ala Lys Leu Asn Pro  
 485 490 495  
 His Trp Phe Phe Asn Gly Tyr Gly Ala Tyr Gly Leu Lys Asp Lys Lys  
 500 505 510  
 Trp Lys Tyr Glu Gly Asn Val Thr Tyr Ser Phe Arg Lys Cys Glu Phe  
 515 520 525  
 Phe Pro Trp Glu Phe Pro Lys His Tyr Ile Ser Ala Ser Tyr Arg Tyr  
 530 535 540  
 Asp Val Met Ser Pro Met Asp Lys Phe Leu Asp Thr Asp Lys Asp Asn  
 545 550 555 560  
 Val Phe Val Ala Trp Lys Thr Thr Val Asp Gln Met Ser Tyr Val  
 565 570 575  
 Arg Asp Ala Thr Leu Arg Tyr Glu Met Glu Thr Leu Ser Gly Phe Ser  
 580 585 590  
 Val Ala Ala Met Ala Arg His Arg Lys Asp Thr Pro Ala Gly Lys Leu  
 595 600 605  
 Gln Tyr Ile Arg Asn Asp Ala Ala Lys Thr Ile Val Pro Asp Ile Thr  
 610 615 620  
 Thr Ala Glu Leu Gly Leu Thr Leu Arg Tyr Ala Pro Gly Glu Thr Phe  
 625 630 635 640  
 Val Asn Thr Lys Gln Arg Arg Pro Val Ser Leu Asp Ala Pro Ile  
 645 650 655  
 Phe Thr Leu Ser His Thr Thr Gly Phe Lys Gly Val Leu Gly Gly Glu  
 660 665 670  
 Tyr Asn Phe Asn Leu Thr Glu Ala Ser Ile Trp Lys Arg Phe Trp Leu  
 675 680 685  
 Ser Ser Trp Gly Lys Val Asp Val Thr Leu Lys Gly Gly Ala Gln Trp  
 690 695 700  
 Asn Thr Val Pro Phe Pro Leu Leu Ile Leu Pro Ala Ala Asn Leu Ser  
 705 710 715 720  
 Tyr Ile Thr Gln Lys Glu Thr Phe Asn Leu Ile  
 725 730

<210> 7365  
 <211> 110  
 <212> PRT  
 <213> B.fragilis

<400> 7365  
 Leu Ile Pro Ile Gln Met Ser Lys Ile Glu Asp Leu Val Lys Trp Lys  
 1 5 10 15  
 Thr Val Glu Thr Val Thr Pro Asn Tyr Pro Asp Gly Val Ile Phe Ile  
 20 25 30  
 Lys Glu Asp Thr Ser Val Glu Phe Pro Leu Ala Met Val Ala Phe Pro  
 35 40 45  
 Leu Gly Gly His Glu Asn Gly Thr Lys Lys Gln Arg Glu Arg Ala Lys  
 50 55 60  
 Leu Ile Ala Ala Ala Pro Glu Leu Leu Asn Ala Leu Gln Gly Met Leu  
 65 70 75 80  
 Glu Arg Phe Asp Tyr Asn Asp Gln Ala Ile Tyr Ser Phe Ala Thr Lys  
 85 90 95  
 Glu Ile Asp Ala Ala Lys Ala Ala Ile Lys Lys Ala Ile Glu  
 100 105 110

<210> 7366  
 <211> 179  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7366

Ile Leu His Met Gly His Pro Thr Met Gln Glu Asn Asp Thr Ala Lys  
 1 5 10 15  
 Leu Thr Pro Thr Arg Ile Met Leu Leu Ile Leu Phe Ile Ala Gly Thr  
 20 25 30  
 Gly Ile Phe Thr Leu Gln Ala Gln Asn Arg Glu Glu Arg Lys Glu Leu  
 35 40 45  
 Lys Glu Gln Thr Val Lys Glu Lys Ile Glu Ser Glu Asn Tyr Arg Ile  
 50 55 60  
 Asp Ile Asn Thr Ala Tyr Pro Arg Arg Gly Arg Met Ile Pro Leu Thr  
 65 70 75 80  
 Ser Ile Tyr Ser Val Thr Ile Arg Asn Asp Ser Val Phe Ser Gln Leu  
 85 90 95  
 Pro Tyr Phe Gly Arg Ala Tyr Ser Ile Pro Tyr Gly Gly Gln Gly  
 100 105 110  
 Leu Met Phe Asn Ala Pro Ile Asp Gln Tyr Thr Met Ala Met Gly Lys  
 115 120 125  
 Arg Gly Ala Ala Lys Ile Asn Phe Thr Ala Lys Ser Pro Glu Asp Gln  
 130 135 140  
 Phe Arg Phe Arg Ile Thr Ile Tyr Ser Asn Gly Ser Ser Ser Ile Asp  
 145 150 155 160  
 Val Asp Met Gln Asn Arg Glu Ser Ile Ser Phe Ser Gly Asp Leu Ile  
 165 170 175  
 Leu Pro Glu

&lt;210&gt; 7367

<211> 65  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7367

Arg Ile Asn Met Ala Trp Met Val Thr Gln Lys Asn Ile Lys Ile His  
 1 5 10 15  
 Thr Cys Ile Asp Gly Ile Asp Ser Val Glu Asp Val Arg Val Ile Ile  
 20 25 30  
 Ser His Lys Lys Leu Lys Ala Leu Gly Ala Lys Arg Arg Val Tyr Lys  
 35 40 45  
 Asp Thr Arg Glu Ser Phe Phe Leu Ile Glu Ser Asp Cys Glu Ile Ile  
 50 55 60  
 Leu  
 65

&lt;210&gt; 7368

<211> 104  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7368

Lys Leu Leu Val Arg Asn Val Glu Phe Ile Lys Thr Arg Glu Arg Ala  
 1 5 10 15  
 Phe Phe Leu Leu Asn Pro Ile Val Lys Ser Ser Ser Lys Leu Glu Gly  
 20 25 30  
 Met Lys Lys Tyr Leu Ala Ile Glu Ile Arg Gly Glu Ile Phe Val Met  
 35 40 45  
 Asn Asp Asn Asp Glu Leu Gly Gly Leu Ile Asp Asn Asp Val Pro Phe  
 50 55 60  
 Thr Val Ile Gly His Val Cys Thr Glu Glu Cys Asn Thr Thr Cys Leu  
 65 70 75 80

His Tyr Arg Gln Gly Thr Cys Pro Cys Lys Ile Met Lys Asp Thr Phe  
 85 90 95  
 Gly Lys Val Ile His Val Phe Val  
 100

<210> 7369

<211> 119

<212> PRT

<213> B.fragilis

<400> 7369

Ala Val Thr Ala Cys Arg Arg Glu Cys Glu Asn Lys Gln Thr Ile Lys  
 1 5 10 15  
 Asn Pro Ile Leu Ile Lys Met Glu Ile Arg Gly Lys Ile Ile Ala Val  
 20 25 30  
 Leu Pro Val Lys Asp Gly Ile Gly Lys Thr Thr Gly Asn Glu Trp Lys  
 35 40 45  
 Ser Arg Glu Phe Val Leu Glu Thr Glu Glu Ser Lys Pro Gln Ser Val  
 50 55 60  
 Cys Leu Gln Leu Met Asn Ala Asn Ile Glu Arg Tyr Ala Val Glu Val  
 65 70 75 80  
 Gly Met Thr Val His Val Lys Phe Asp Ile Ser Ala Arg Gln Trp Glu  
 85 90 95  
 Asn Arg Trp Phe Asn Thr Leu Thr Ala Trp Glu Val Thr Val Ile Lys  
 100 105 110  
 Gln Lys Glu Glu Gln Pro Ala  
 115

<210> 7370

<211> 577

<212> PRT

<213> B.fragilis

<400> 7370

Ala Leu Trp Arg Pro Cys Ile Gln Lys Leu Trp Leu Ala Phe Pro Ser  
 1 5 10 15  
 His Pro Gly Ser Gly Glu Ser Gly Val Pro Val Leu Thr Phe Lys Lys  
 20 25 30  
 Met Arg Lys Thr Arg Arg Ile Ile Pro Phe Val Phe Cys Gly Leu Leu  
 35 40 45  
 Ile Ser Cys Thr Thr Glu Arg Arg Leu Ala Arg Val Arg Ile Ser Gln  
 50 55 60  
 Pro Gln Met Lys Glu Thr Val Ala Asp Thr Gly Lys Gln Leu Pro Gly  
 65 70 75 80  
 Gln Ile Ala Trp Thr Asp Asp Lys Gly Glu Glu His Leu Val Lys Gln  
 85 90 95  
 Val Ser His Asp Ser Val Thr Gly Glu Asn Met Thr Leu Ile Glu Leu  
 100 105 110  
 Ser Glu Val Thr Val Met Ala Lys Ser Lys Gln Val Ala Glu Arg Asn  
 115 120 125  
 Gly Lys Ile Asn Leu Asp Phe Leu Val Thr Val Pro Gly Glu Leu Ile  
 130 135 140  
 Asn Asn Lys Trp Gln Val Gln Leu Thr Pro Val Ala Tyr Lys Pro Ser  
 145 150 155 160  
 Asp Thr Leu Tyr Leu Asp Lys Ile Phe Leu Ser Gly Ala Asp Phe Ala  
 165 170 175  
 Lys Met Gln Glu Lys Gly Tyr Met Arg Tyr Arg Ala Phe Met Asn Ser  
 180 185 190  
 Ile Ile Pro Asp Ser Leu Tyr Met Gln Arg Leu Leu Asp Ser Lys Gly

195	200	205
Tyr Lys Ala Leu Ala Glu	Leu Glu Glu Glu	Tyr Phe Gln Ala Trp
210	215	220
Lys His Glu Val Ile Ala	Lys Glu Arg Trp Val	Asp Trp Ser Asp Lys
225	230	235
Thr Asn Ala Arg Phe Ala	Leu Phe Asn Tyr	Lys Met Glu Arg Asn Arg
245	250	255
Gln Ala Ile Ala Gly	Tyr Asn Ser Ile	Leu Glu Tyr Leu Pro Ala Tyr
260	265	270
Trp Met Arg Arg Glu Ile	Asp Gly Lys Tyr	Ile Pro Ser Lys Trp Lys
275	280	285
Met Phe Ala Glu Gly Asn	Tyr Lys Ile Arg	Thr Arg Ser Ile Thr Pro
290	295	300
Glu Asp Ser Ala Ala Ile	Thr Glu Arg Phe	Thr Asp Tyr Lys Lys Ile
305	310	315
Ala Glu Asn Gln Lys Arg	Lys Glu Gln Ala	Gly Ala Met Tyr Glu Lys
325	330	335
Tyr Val Arg Phe Pro	Tyr Glu Pro Ala Arg	Leu Asp Thr Val Ile Lys
340	345	350
Gln Gly Asn Ser Phe Val	Tyr Tyr Lys Gln Glu	Leu Pro Ala Thr
355	360	365
Glu Asn Thr Lys Lys Ile	Glu Leu Thr Leu Asp	Gly Gln Ile Leu Ser
370	375	380
Arg Asp Glu Val Arg Thr	Gln Leu Pro Pro	Ser Asp Thr Ile Thr Tyr
385	390	395
Tyr Ile Ser Ser Met Val	Gln Phe Leu Asp	Arg Thr Pro Arg Tyr Arg
405	410	415
Lys Lys Ile Ile Thr Arg	Lys Asp Glu Val	Ser Leu Arg Ala Tyr Val
420	425	430
Thr Tyr Lys Ser Gly Ser	Thr Gly Phe Asp	Glu Lys Thr Gly Asn Asn
435	440	445
Lys Ala Glu Ile Asp Lys	Val Phe Glu Thr Ile Arg	Gly Ile Asn Tyr
450	455	460
Thr Gly Glu Phe Leu Ile	Asp Ser Ile Arg	Met Thr Ala Thr Ser Ser
465	470	475
Pro Glu Gly Ser Ser Glu	Met Asn Leu Phe	Leu Ser Arg Glu Arg Ala
485	490	495
Leu Ala Leu Lys Lys	Tyr Leu Ala Ala Arg	Thr Glu Asp Arg Glu Gly
500	505	510
Val Asp Thr Leu Phe Arg	Pro Arg Trp Thr	Gly Glu Glu Trp Ser Arg
515	520	525
Leu His Glu Leu Val Leu	Ser Asp Asp Ser	Leu Ala Asn Lys Ala Gly
530	535	540
Ile Leu Arg Ile Leu Lys	Glu Thr Lys Asn	Pro Asp Ser Arg Glu His
545	550	555
Ala Leu Arg Glu Tyr Ala	Ser Asp Tyr	Lys Arg Ile Arg Glu Arg Val
565	570	575
Phe		

&lt;210&gt; 7371

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7371

Ala Lys Gly Gly Thr Ala Gly Met Lys Lys Arg Ser Phe Leu Leu Gly

1 5 10 15

Ser Leu Leu Ala Phe Thr Leu Gly Val Ser Ala Gln Ser Tyr Ser Leu

20	25	30
Arg Thr Asn Val Leu Gly Leu Ala Thr Thr Asn Leu Asn Leu Glu Ala		
35	40	45
Ser Met Thr Leu Gly Arg Lys Trp Ser Leu His Leu Pro Val Gln Tyr		
50	55	60
Asn Pro Phe Arg Phe Ser Arg Asn Arg Gln Phe Arg Asn Leu Tyr Val		
65	70	75
Ala Pro Gly Val Arg Tyr Trp Leu Leu Glu Ser Tyr Met Gly Pro Phe		
85	90	95
Ile Gly Met His Gly Thr Ala Gly Tyr Ile Gln Cys Gly Gln Pro Leu		
100	105	110
Arg Gln Gln Val Pro Leu		
115		

&lt;210&gt; 7372

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7372

Arg His Met Gly Tyr Val Ser Ile Lys Arg Gly Tyr Cys Arg Ser Gln		
1	5	10
Lys Tyr Arg Asn Lys Tyr Ile Arg Trp Tyr Phe Glu Gly Val Thr Pro		
20	25	30
Gly Leu Arg Gly Gln Phe Glu Ala Met Arg Ser Thr Ser Ala Glu Glu		
35	40	45
Val Arg Val Ala Ala Leu Val His Cys His Asn Ala Val Ile Asp Arg		
50	55	60
Tyr Leu Val Thr Ile Gly Met Cys Ser Ala Lys Val Gln Pro Arg Asn		
65	70	75
Thr Lys Thr Asp Tyr Ser Ala Tyr His Ser Gly Met Asp Asp Gly Arg		
85	90	95
Ser Ile Ser Leu His Arg Gln Ile Asn Gly Gly Asn Val		
100	105	

&lt;210&gt; 7373

&lt;211&gt; 95

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7373

Arg Met Lys Gly Thr Tyr Trp Tyr Ala Val Asp Tyr Ala Gly Thr Gly		
1	5	10
His Leu Phe Thr Tyr Lys Pro Glu Arg Asp Ala Gly Ile Trp Asn Gly		
20	25	30
Glu Glu Ala Leu Gln Val Ser Gln Gly Ala Leu Arg Glu Val Phe Pro		
35	40	45
Lys Ile Thr Trp Gln Asp Ser Pro Val Val Val Thr Leu Glu Val Leu		
50	55	60
Pro Cys Glu Glu Thr Phe Arg Leu Arg Leu Ser Lys Asn Cys Gly Tyr		
65	70	75
Ile Leu Arg Lys Tyr Leu Arg Phe Pro Arg Glu Gly Lys Asn Lys		
85	90	95

&lt;210&gt; 7374

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7374

Arg	Lys	Lys	Gly	Asn	Gly	Glu	Ile	Lys	Gly	Arg	Gly	Trp	Lys	Met	Gly
1				5				10					15		
Met	Arg	Trp	Phe	Gln	Gly	Gly	Phe	Gly	Ser	Lys	Leu	Ser	Trp	Trp	Glu
			20				25						30		
Lys	Gly	Gly	Gly	Asn	Glu	Gly	Glu	Ala	Glu	Lys	Arg	Lys	Ile	Lys	Met
			35				40				45				
Ala	Trp	Ile	Cys	Glu	Pro	Val	Thr	Val	Gln	Asn	Asn	Ile			
		50				55				60					

&lt;210&gt; 7375

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7375

Val	His	Arg	Ile	Tyr	Ile	Ser	Pro	Thr	Ile	Gly	Val	Pro	Asp	Met	Lys
1				5				10					15		
Lys	Lys	Ser	Glu	Lys	Gln	Asn	Met	Asn	Val	Lys	Asn	Met	Asn	Lys	Ile
			20				25				30				
Asn	Thr	Glu	Lys	Ser	Pro	Ala	Ile	Thr	Leu	Asn	Asn	Arg	Arg	Leu	His
		35				40				45					
Lys	Gln	Asn	Lys	Gln	Tyr	Ile	Ala	Leu	Ser	Ser	Gln	Thr	Lys	Leu	Thr
		50			55			60							
Lys	Thr	Leu	Asn	Ile	Arg	Ile	Gln	Ile							
		65			70										

&lt;210&gt; 7376

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7376

Thr	Val	Asp	Val	Ser	Arg	Gly	Glu	Trp	Arg	Tyr	Arg	Ile	Lys	Asp	Arg
1				5				10				15			
Asn	Pro	Leu	Asn	Asn	Ser	His	Met	Tyr	Phe	Ile	His	Tyr	Ile	Gln	Thr
				20			25				30				
Tyr	Ala	Ser	Val	Asn	Arg	Lys	Gly	Ser	Glu	Leu	Gln	Glu	Tyr	Val	Leu
			35			40			45						
Gln	Leu	Lys	Asp	Ser	Leu	Ile	Lys	Asp	Arg	Glu	Val	Leu	Asp	Asp	Leu
		50			55			60							
Lys	Glu	Glu	Leu	His	Cys	Arg	Ile	Gly	Glu	Leu	Asp	Ala	Lys	Tyr	Pro
		65			70			75			80				
Arg	Thr	Gln	Pro	Leu	His	Leu	Asp	Ala	Ala	Ser	Gly	Arg	Asp	Ser	Ile
			85			90			95						
Gln	Trp	Ile	Ile	His	Val	Lys	Gly	Lys	Pro	Asp	Asn	Leu	Ile	Cys	Ile
			100			105			110						
Ile	Ser	Ile	Thr	Lys	Val	Arg	Asn	Leu	Leu	Gly	Glu	Gly	Thr	Gly	Phe
			115			120			125						
Phe	Leu	Gly	Glu	Lys	Thr	Gly	Gly	Lys	Glu						
		130			135										

&lt;210&gt; 7377

&lt;211&gt; 432

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7377

Leu Lys Tyr Lys Cys Lys Arg Ile Ser Leu Asn Ser Tyr Leu Leu Val

1	5	10	15
Arg Lys Leu Phe Glu Ala Ile Phe Arg		Leu Pro Tyr Ser Val	Leu Leu
	20	25	30
Phe Ala Ser His Thr Leu Arg Gly Ile Pro	Ile	Ala Arg Thr Tyr	
	35	40	45
His Ala Cys Arg Leu Thr Asn Gly Ile Thr	Leu Glu	Leu Ala Val	Leu
	50	55	60
His Leu Thr Asp Asp Thr Ile Ile Val	Leu His Tyr Asp Lys	Phe Ala	
	65	70	80
Gln Thr Phe Pro Ser Ile Glu Ser Ala	Leu Arg Cys His Val	Gly Ile	
	85	90	95
Val Gly Gln Lys Leu His Ser Arg Phe Arg	Ile Leu Leu Val	Gln Leu	
	100	105	110
Asn Ser Asn Cys Phe Asn Thr Phe Leu Cys	Leu Val Glu	Gly Gly Phe	
	115	120	125
Lys Phe Val Leu Arg Ser Thr Tyr Ile Ala	Asp His Gln Ile Val	Ala	
	130	135	140
Gly Ile Tyr His Val Gly His Pro Val	Glu Asn Pro Lys Ser	Gly Val	
	145	150	160
Pro Gly Glu Gly Asp Val Ile Gly Thr	Val Tyr Thr Arg Ile	Ala Tyr	
	165	170	175
Arg Ser Phe Gly Ser Thr Thr Ile Tyr	Gly Ser Glu Asn Ser	His Val	
	180	185	190
Gly Ile Ile Arg Thr Lys Pro Lys His	Thr Ala Tyr Ser Ile	Gly Lys	
	195	200	205
Ile Gly Thr His Leu Ser His Lys Asn	Glu Thr Ala Leu	Leu Cys Arg	
	210	215	220
Asp Gly Thr Leu Ile Glu Ile Leu Leu	Val Ala Tyr Leu Glu	Ser Gln	
	225	230	240
Arg Arg Glu Ala Val Arg Cys Phe Ile	Arg Ser Gly Thr Lys	Ile Ile	
	245	250	255
Ala Asp Val Glu Gly Ser Phe Ile Met	Val Ala His Gly Ile	Leu	
	260	265	270
Tyr Ile Leu Asn Gly Glu Phe Ala	Phe Arg Leu Tyr Glu	Gln Arg His	
	275	280	285
Arg Val Ile Gly Leu Ser Leu Asp Ile	Arg Gln Ile Gly	Phe Thr Leu	
	290	295	300
Val Gly Lys His Ile Glu Val Ala Pro	His Thr Gly Phe	Thr Glu Thr	
	305	310	320
Ala Gly Thr Glu Ile Glu Arg Cys Ile	Ser Ile Gly Lys	Ala Glu Val	
	325	330	335
Phe Val His Thr Ala Glu Ile Ser Phe	Phe Ala Gly Lys	Arg Asn Asn	
	340	345	350
Val Ile Arg Ile His Ala Val Gly	Leu Val Ser His Ile	Glu Leu Met	
	355	360	365
Asp Ala Arg Leu Val Gly Met Cys Arg	Asn Ala Val Val	Arg His Ser	
	370	375	380
Asp Ser Tyr Pro Tyr Gly Ser Pro Asp	Ala Gly Thr Phe	Thr Tyr His	
	385	390	400
Leu His Asn Pro Tyr Phe Ile Gly Ile	Gly Asn Gly Glu	Asp Ser Pro	
	405	410	415
Cys Cys Asn Ile Arg Ile Pro Ala Pro	Val Gln Cys Leu	His Arg Gly	
	420	425	430

&lt;210&gt; 7378

&lt;211&gt; 763

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7378

Asn Leu His Lys Gly Met Lys Asn Asn Thr Leu Ser Gly Ala Tyr Tyr  
 1 5 10 15  
 Pro Lys Asn Pro Gln Ile Lys His Phe Phe Arg Ile Met Arg Ile Thr  
 20 25 30  
 Leu Phe Leu Leu Met Ala Cys Val Phe Ser Leu Tyr Ala Gly Asn Ser  
 35 40 45  
 Tyr Ser Gln Asn Thr Arg Val Ser Phe Ala Met Asp Asn Val Gly Leu  
 50 55 60  
 Asn Lys Val Leu Glu Glu Ile Glu Ser Gln Thr Asp Tyr Leu Phe Ile  
 65 70 75 80  
 Tyr Asn Ser Gln Ile Asn Val Asn Lys Leu Val Thr Ile Lys Ala Asn  
 85 90 95  
 Lys Gln Thr Val Ser Lys Val Leu Asp Gln Ile Leu Gln Asn Thr Gly  
 100 105 110  
 Ile Glu Tyr Lys Leu Glu Gly Ser His Ile Ile Leu Glu Lys Lys Val  
 115 120 125  
 Glu Glu Val His Asn Ser Ser Ala Val Gln Gln Gln Thr Lys  
 130 135 140  
 Lys Ile Thr Gly Lys Val Val Asp Lys Thr Gly Glu Ala Ile Ile Gly  
 145 150 155 160  
 Ala Asn Val Lys Ile Gln Gly Thr Asp Lys Gly Thr Ile Thr Asp Leu  
 165 170 175  
 Asp Gly Asn Phe Ile Leu Glu Val Ala Pro Lys Asp Val Leu Val Ile  
 180 185 190  
 Ser Tyr Ile Gly Tyr Leu Asp Thr Lys Val Pro Ile Ala Gly Gln Lys  
 195 200 205  
 Gln Ile His Val Val Leu Ser Glu Asp Asn Lys Met Leu Asp Glu Val  
 210 215 220  
 Val Val Ile Gly Tyr Gly Thr Thr Ser Thr Arg Lys Met Ala Ser Ala  
 225 230 235 240  
 Val Thr Ala Val Lys Gly Glu Lys Leu Gln Asp Leu Pro Phe Asn Ser  
 245 250 255  
 Val Ala Ala Ser Leu Ala Gly Arg Ala Thr Gly Val Ile Val Gln Ser  
 260 265 270  
 Ser Gly Gly Glu Pro Gly Ser Ala Pro Ser Ile Ser Ile Arg Gly Gly  
 275 280 285  
 Gly Ala Pro Val Tyr Val Ile Asp Gly Val Ile Ser Asp Ala Trp Asp  
 290 295 300  
 Phe Asn Thr Leu Asn Pro Asn Asp Ile Glu Ser Leu Ser Ile Leu Lys  
 305 310 315 320  
 Asp Ala Ala Ser Leu Ala Val Tyr Gly Ser Arg Ala Ala Asn Gly Ile  
 325 330 335  
 Val Met Val Lys Thr Lys Gln Gly Gly Lys Gly Lys Thr Ala Val Asn  
 340 345 350  
 Tyr Thr Phe Asn Ala Glu Phe Ser Gln Pro Thr Lys Leu Leu Lys Lys  
 355 360 365  
 Thr Arg Gly Tyr Asp Tyr Ala Tyr Asn Gln Met Leu Ala Gly Ile Asn  
 370 375 380  
 Asp Gly Leu Asp Glu Ala Asp Leu Pro Phe Asn Gln Glu Val Leu Asp  
 385 390 395 400  
 Ile Ile Lys Asn Gln Ser Asp Pro Tyr Thr Ser Gly His Ala Asp Thr  
 405 410 415  
 Asp Trp Leu Gly Glu Gly Leu Lys Thr Val Ala Pro Gln Tyr Lys His  
 420 425 430  
 Thr Val Ser Leu Ser Gly Ser Gly Asn Lys Val Asn Tyr Tyr Ile Ser  
 435 440 445  
 Leu Gly Met Leu Asn Gln Gly Ser Ile Tyr Thr Ser Asn Ala Leu Asn  
 450 455 460

Tyr Asp Arg Tyr Thr Val Arg Ser Asn Val Asn Thr Thr Phe Asp Lys  
 465 470 475 480  
 Ile Gly Leu Lys Val Ser Leu Asn Leu Asn Gly Ala Tyr Glu Lys Lys  
 485 490 495  
 Glu Tyr Pro Ser Phe Ser Ala Ala Lys Ile Trp Glu Asp Leu Tyr Asn  
 500 505 510  
 Gln Ser Pro Leu Asn Pro Ala Tyr Asn Lys Asp Gly Thr Tyr Ala Ala  
 515 520 525  
 Val Thr Asp His Pro Leu Ala Glu Met Asp Lys Arg Ser Gly Tyr Asn  
 530 535 540  
 Arg Asn Tyr Gly Lys Phe Ile Asn Thr Gln Val Ala Ala Asp Trp Thr  
 545 550 555 560  
 Leu Pro Trp Leu Lys Glu Leu Thr Leu Gly Ala Met Phe Asn Tyr Arg  
 565 570 575  
 Leu Asn Asp Ser His Val Lys Lys Phe Ser Thr Lys Ala Pro Gln Tyr  
 580 585 590  
 Tyr Ala Asp Gly Ala Val Tyr Pro Ile Gly Lys Pro Thr Leu Asn Glu  
 595 600 605  
 Glu Gly Tyr Trp Gly Glu Ser Tyr Asn Phe Glu Val Ser Ala Ala Tyr  
 610 615 620  
 Val Lys Thr Phe Ala Glu Lys His Thr Ile Asp Ala Lys Phe Val Tyr  
 625 630 635 640  
 Asn Val Ala Glu Asn Thr Gly Trp Asn Phe Asn Ala Tyr Cys Gly Glu  
 645 650 655  
 Tyr Leu Ser Thr Val Val Asp Gln Leu Phe Ala Gly Ala Ala Tyr Thr  
 660 665 670  
 Gln Gln Asn Gly Gly Tyr Ser Asp Glu Arg Gly Arg Met Gly Leu Val  
 675 680 685  
 Gly Leu Leu Lys Tyr Asp Phe Met Asn Arg Asn Ile Val Glu Gly Ser  
 690 695 700  
 Phe Arg Tyr Tyr Gly Ser Asp Asn Phe Thr Pro Arg His Arg Trp Gly  
 705 710 715 720  
 Phe Phe Pro Ser Gly Ala Glu Ala Trp Ala Ile Ser Glu Glu Pro Phe  
 725 730 735  
 Phe Lys Glu Trp Glu Gln His Val Phe Asn Leu Leu Lys Leu Arg Pro  
 740 745 750  
 Phe Leu Trp Thr Asp Pro Tyr Gly Lys Trp Glu  
 755 760

&lt;210&gt; 7379

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7379

Phe Gly Gly Lys Thr Ala Leu Gln Asp Leu Ile Lys Arg Gly Phe Arg  
 1 5 10 15  
 Val Pro Pro Glu Thr Ala Leu Ser Trp Asp Tyr Gly Gly Asn Ser Phe  
 20 25 30  
 Ile Leu Trp Asp Trp Asn Ile Gly Phe Phe Ser Thr Asn Arg Phe Val  
 35 40 45  
 Lys Gly His Leu Arg Asn Ile Ser Tyr Tyr Arg Lys Pro Lys Gly Gly  
 50 55 60  
 Val Asn Ile Ile Pro Arg  
 65 70

&lt;210&gt; 7380

&lt;211&gt; 397

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (387)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7380

Pro	Ala	Val	Lys	Thr	Leu	Asn	Trp	Cys	Arg	Asn	Thr	Asp	Ile	Thr	Ala
1					5				10						15
Trp	Arg	Val	Phe	Thr	Ile	Ala	Asp	Pro	Asn	Glu	Ile	Trp	Ile	Met	Glu
					20				25					30	
Met	Ile	Gly	Lys	Gly	Pro	Gly	Ile	Arg	Gly	Ala	Val	Trp	Val	Ala	Val
					35			40				45			
Arg	Val	Pro	Asp	Asp	Cys	Ile	Ser	Ala	His	Ala	Asn	Gln	Ser	Arg	Ile
					50		55				60				
His	Gln	Phe	Asp	Met	Ala	Asp	Lys	Ala	Asn	Cys	Met	Tyr	Ser	Asn	Asp
					65		70			75			80		
Val	Ile	Ser	Phe	Ala	Arg	Glu	Lys	Gly	Tyr	Phe	Ser	Gly	Val	Asn	Lys
					85		90			95					
Asp	Phe	Ser	Phe	Ala	Asp	Ala	Tyr	Ala	Pro	Leu	Asp	Phe	Gly	Ala	Arg
					100			105				110			
Arg	Phe	Cys	Glu	Ala	Arg	Val	Trp	Ser	Tyr	Phe	Asn	Met	Phe	Thr	Asp
					115		120			125					
Gln	Gly	Glu	Ala	Tyr	Leu	Pro	Tyr	Ile	Gln	Gly	Lys	Thr	Asn	Asp	Pro
					130		135			140					
Met	Pro	Leu	Phe	Val	Lys	Pro	Lys	Arg	Lys	Leu	Ser	Val	Gln	Asp	Val
					145		150			155			160		
Lys	Asn	Ala	Met	Arg	Asp	His	Tyr	Glu	Gly	Thr	Ala	Leu	Asp	Ile	Ser
					165			170			175				
Asn	Asp	Phe	Gly	Ala	Gly	Pro	Tyr	Lys	Thr	Pro	Tyr	Arg	Leu	Ser	Pro
					180			185			190				
Leu	Thr	Phe	Lys	Val	Gly	Asp	Gln	Glu	Tyr	Phe	Asn	Glu	Arg	Pro	Ile
					195		200			205					
Ser	Thr	Gln	Gln	Ser	Gly	Phe	Val	Phe	Val	Ala	Gln	Met	Arg	Ala	Asn
					210		215			220					
Leu	Pro	Asp	Ala	Val	Gly	Gly	Val	Leu	Trp	Phe	Gly	Thr	Asp	Asp	Ala
					225		230			235			240		
Asn	Met	Thr	Val	Phe	Thr	Pro	Val	Tyr	Cys	Cys	Thr	Thr	Lys	Ala	Pro
					245			250			255				
Val	Cys	Tyr	Thr	Arg	Val	Asp	Gly	Ala	Asp	Tyr	Ile	Thr	Phe	Ser	Trp
					260			265			270				
Asn	Ser	Ala	Phe	Trp	Ile	Phe	Asn	Trp	Val	Ala	Asn	Met	Val	Tyr	Pro
					275		280			285					
Arg	Tyr	Asp	Leu	Met	Ile	Gly	Asp	Val	Arg	Ala	Thr	Gln	Asn	Glu	Leu
					290		295			300					
Glu	Thr	Thr	Phe	Asn	Glu	Ala	Gln	Glu	Gly	Ile	Glu	Ala	Val	Ala	Val
					305		310			315			320		
Lys	Leu	Tyr	Glu	Lys	Asn	Pro	Glu	Thr	Ala	Val	Lys	Phe	Leu	Thr	Asn
					325			330			335				
Tyr	Thr	Asp	Met	Thr	Ala	Gln	Ser	Thr	Phe	Asp	Thr	Trp	Lys	Arg	Leu
					340			345			350				
Gly	Glu	Phe	Ile	Ile	Val	Lys	Tyr	Asn	Asp	Gly	Val	Ile	Arg	Lys	Met
					355		360			365					
Lys	Asp	Gly	Lys	Phe	Glu	Arg	Asn	Ala	Ile	Gly	Gln	Pro	Ala	Gly	Val
					370		375			380					
Val	Arg	Xaa	Gly	Tyr	Tyr	Arg	Asn	Ser	Ser	Lys	Ser	Met			
					385		390			395					

<210> 7381  
<211> 586  
<212> PRT  
<213> B.fragilis

<400> 7381

Asn	Ile	Asp	Arg	Thr	Met	Gly	Asn	Glu	Glu	Leu	Ile	Lys	Gln	Val	Thr
1					5				10					15	
Glu	Lys	Ala	Glu	Lys	Trp	Leu	Thr	Pro	Ala	Tyr	Asp	Ala	Glu	Thr	Gln
						20			25					30	
Ala	Glu	Val	Lys	Arg	Met	Leu	Glu	Asn	Glu	Asp	Lys	Thr	Glu	Leu	Ile
					35			40				45			
Glu	Ala	Phe	Tyr	Lys	Asp	Leu	Glu	Phe	Gly	Thr	Gly	Gly	Leu	Arg	Gly
					50			55			60				
Ile	Met	Gly	Val	Gly	Thr	Asn	Arg	Met	Asn	Ile	Tyr	Thr	Val	Gly	Ala
					65			70			75			80	
Ala	Thr	Gln	Gly	Leu	Ser	Asn	Tyr	Leu	Asn	Ala	Asn	Phe	Lys	Asp	Met
					85			90			95				
Lys	Gln	Ile	Ser	Val	Val	Val	Gly	Tyr	Asp	Cys	Arg	Asn	Asn	Ser	Ser
					100			105			110				
Leu	Phe	Ala	Lys	Ile	Ser	Ala	Asp	Ile	Phe	Ser	Ala	Asn	Gly	Ile	Lys
					115			120			125				
Val	Tyr	Leu	Phe	Glu	Glu	Met	Arg	Pro	Thr	Pro	Glu	Met	Ser	Phe	Ala
					130			135			140				
Ile	Arg	His	Leu	Gly	Cys	Gln	Ser	Gly	Ile	Ile	Leu	Thr	Ala	Ser	His
					145			150			155			160	
Asn	Pro	Lys	Glu	Tyr	Asn	Gly	Tyr	Lys	Ala	Tyr	Trp	Asp	Asp	Gly	Ala
					165			170			175				
Gln	Val	Leu	Ala	Pro	His	Asp	Lys	Gly	Ile	Ile	Asp	Glu	Val	Asn	Lys
					180			185			190				
Ile	Ala	Ser	Ala	Ala	Asp	Ile	Lys	Phe	Gln	Gly	Asn	Pro	Asp	Leu	Ile
					195			200			205				
Gln	Ile	Ile	Gly	Glu	Asp	Val	Asp	Lys	Ile	Tyr	Leu	Asp	Met	Val	Lys
					210			215			220				
Thr	Val	Ser	Ile	Asp	Pro	Glu	Ala	Ile	Ala	Arg	His	Lys	Asp	Met	Lys
					225			230			235			240	
Ile	Val	Tyr	Thr	Pro	Ile	His	Gly	Thr	Gly	Met	Met	Leu	Ile	Pro	Arg
					245			250			255				
Ala	Leu	Lys	Met	Trp	Gly	Phe	Glu	Asn	Val	Tyr	Thr	Val	Pro	Glu	Gln
					260			265			270				
Met	Ile	Lys	Asp	Gly	Asn	Phe	Pro	Thr	Val	Val	Ser	Pro	Asn	Pro	Glu
					275			280			285				
Asn	Ala	Glu	Ala	Leu	Thr	Met	Ala	Leu	Asn	Leu	Ala	Lys	Glu	Ile	Asp
					290			295			300				
Ala	Asp	Leu	Val	Met	Ala	Ser	Asp	Pro	Asp	Ala	Asp	Arg	Val	Gly	Ile
					305			310			315			320	
Ala	Cys	Lys	Asn	Asp	Lys	Gly	Glu	Trp	Val	Leu	Ile	Asn	Gly	Asn	Gln
					325			330			335				
Thr	Cys	Leu	Met	Tyr	Leu	Tyr	Tyr	Ile	Ile	Thr	Gln	Tyr	Asn	Lys	Leu
					340			345			350				
Gly	Lys	Met	Thr	Gly	Asn	Glu	Phe	Cys	Val	Lys	Thr	Ile	Val	Thr	Thr
					355			360			365				
Glu	Leu	Ile	Lys	Lys	Ile	Ala	Asp	Lys	Asn	His	Ile	Glu	Met	Leu	Asp
					370			375			380				
Cys	Tyr	Thr	Gly	Phe	Lys	Trp	Ile	Ala	Arg	Glu	Ile	Arg	Leu	Arg	Glu
					385			390			395			400	
Gly	Lys	Lys	Lys	Tyr	Ile	Gly	Gly	Glu	Glu	Ser	Tyr	Gly	Phe	Leu	
					405			410			415				
Ala	Glu	Asp	Phe	Val	Arg	Asp	Lys	Asp	Ala	Val	Ser	Ala	Cys	Cys	Leu

420	425	430
Ile Ala Glu Val Ala Ala Trp Ala Lys Asp Asn Gly Lys		Thr Leu Tyr
435	440	445
Gln Leu Leu Met Asp Ile Tyr Val Glu Tyr Gly Phe Ser Lys Glu Phe		
450	455	460
Thr Val Asn Val Val Lys Pro Gly Lys Ser Gly Ala Glu Glu Ile Lys		
465	470	475
Ala Met Met Glu Asn Phe Arg Ala Asn Pro Pro Lys Glu Leu Gly Gly		
485	490	495
Ser Lys Val Val Leu Ser Lys Asp Tyr Lys Thr Leu Lys Gln Thr Asp		
500	505	510
Ala Ala Gly His Val Thr Asp Ile Asp Met Pro Glu Pro Ser Asn Val		
515	520	525
Leu Gln Tyr Phe Thr Glu Asp Gly Gly Lys Val Ser Val Arg Pro Ser		
530	535	540
Gly Thr Glu Pro Lys Ile Phe Tyr Ile Glu Val Lys Gly Glu Met		
545	550	555
Gly Cys Arg Asn Cys Phe Ala Thr Ala Asp Ala Glu Ala Thr Glu Lys		
565	570	575
Val Glu Ala Val Lys Lys Ser Leu Gly Ile		
580	585	

&lt;210&gt; 7382

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (37)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7382

Arg Thr Ala Ser Ser Ser Val Met Pro Leu Val Asn Leu Gln Ala Trp		
1	5	10
Tyr Val Arg Ala Ile Ile Gly Ile Pro Arg Arg Val Cys Glu Ala Asn		
20	25	30
Arg Arg Thr Leu Xaa Gly Asn Arg Asn Ile Ala Ser Lys Ser Phe Leu		
35	40	45
Thr Lys Arg Tyr Glu Phe Lys Leu Ile Leu Leu His Leu Tyr Phe Asn		
50	55	60

&lt;210&gt; 7383

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7383

Glu Leu Phe Ile Gln Glu Asn Asp Ser Asp Arg Phe Pro Val Thr Leu		
1	5	10
Pro Ile Ile Val Glu Thr Gly Lys Ile Ser Thr Arg Ile Gly Asp Ile		
20	25	30
Val Arg Val Glu Gly Thr Ala Gln Val Leu Gly Phe Leu Glu Asn Ser		
35	40	45
Pro Lys Arg Asn Ala Pro Ser Asn Glu Gly Gln Gly Ile Pro Ile Ile		
50	55	60
Lys		
Leu Trp Ile His Leu Tyr Asp Ala Lys Tyr Pro Ser Lys Glu Tyr Leu		
65	70	75
		80

<210> 7384  
<211> 314  
<212> PRT  
<213> B.fragilis

<400> 7384

Tyr	Ile	Val	Met	Asp	Lys	Asp	Leu	Leu	Tyr	Asn	Phe	Tyr	Lys	Gly	Lys
1				5					10				15		
Val	Ser	Ile	Glu	Glu	Gly	Gln	Arg	Val	Lys	Ala	Trp	Val	Glu	Ala	Ser
								20				25			30
Asp	Glu	Asn	Glu	Arg	Ala	Phe	Tyr	Arg	Glu	Arg	Lys	Ile	Phe	Asp	Ala
							35		40				45		
Leu	Met	Leu	Asn	Asn	Pro	Leu	Pro	Val	Lys	Lys	Thr	Ser	Phe	Phe	Asn
							50		55			60			
Phe	Thr	His	Tyr	Lys	Lys	Ile	Glu	Trp	Leu	Lys	Ile	Ala	Met	Ala	Val
						65		70		75			80		
Ile	Leu	Thr	Phe	Leu	Leu	Ser	Tyr	Phe	Tyr	Gln	Glu	Tyr	Lys	Ala	Gly
						85			90			95			
Leu	Asp	Ser	Val	Ala	Met	Ser	Thr	Ile	Ser	Val	Pro	Glu	Gly	Gln	Arg
						100			105			110			
Thr	Asn	Val	Thr	Leu	Pro	Asp	Gly	Ser	Asn	Val	Trp	Leu	Asn	Ala	Cys
						115			120			125			
Thr	Thr	Ile	Gln	Tyr	Pro	Thr	Ser	Phe	Asn	Ser	Arg	Glu	Arg	Phe	Val
						130		135			140				
Ile	Leu	Lys	Gly	Glu	Ala	Tyr	Phe	Asp	Val	Lys	Lys	Asn	Lys	Ser	Arg
						145		150		155			160		
Pro	Phe	Ile	Val	His	Thr	Asp	Ala	Tyr	Ser	Ile	Glu	Val	Leu	Gly	Thr
						165			170			175			
Lys	Phe	Asn	Val	Asp	Ala	Tyr	Pro	Glu	Thr	Glu	Lys	Phe	Glu	Thr	Thr
						180			185			190			
Leu	Met	His	Gly	Ser	Val	Lys	Val	Thr	Leu	Lys	Ala	Asp	Ser	Ser	Gln
						195			200			205			
Thr	Val	Ile	Leu	Lys	Pro	Asp	His	Lys	Leu	Ser	Leu	Glu	Lys	Gly	Arg
						210		215			220				
Phe	Val	Met	Thr	Lys	Val	Glu	Asp	Tyr	Asn	Pro	Tyr	Arg	Trp	Lys	Glu
						225		230		235			240		
Gly	Leu	Ile	Cys	Phe	Ser	Asp	Glu	Ser	Phe	Pro	Asn	Ile	Met	Lys	Asp
						245			250			255			
Phe	Glu	Lys	Tyr	Tyr	Gly	Val	Lys	Ile	Val	Ile	Glu	Asn	Lys	Asn	Val
						260			265			270			
Leu	Gln	Ile	Asn	Phe	Thr	Gly	Lys	Phe	Arg	Gln	Thr	Asp	Gly	Ile	Asp
						275		280			285				
Tyr	Ala	Leu	Arg	Ile	Leu	Gln	Lys	Asn	Ile	Asp	Phe	Gln	Tyr	Glu	Lys
						290		295			300				
Asp	Asn	Glu	Lys	Gln	Ile	Ile	Tyr	Ile	Lys						
						305			310						

<210> 7385  
<211> 195  
<212> PRT  
<213> B.fragilis

<400> 7385

Ser	Tyr	Val	Met	His	Ile	Lys	Thr	Asn	Pro	Lys	Asp	Lys	Met	Ser	Phe
1					5				10				15		
Asn	Gln	Leu	Tyr	Asn	Asp	Tyr	Gln	Thr	Arg	Phe	Leu	Asn	Phe	Ala	Asn
								20		25			30		

Thr Tyr Val Arg Asp Trp Asp Val Ala Glu Asp Ile Thr Thr Glu Ala  
 35 40 45  
 Leu Ile Tyr Tyr Trp Glu Asn Arg Asn Thr Leu Ser Glu Val Ser Asn  
 50 55 60  
 Ile Pro Ala Tyr Ile Leu Thr Ile Ile Lys Asn Lys Ser Leu Asn Tyr  
 65 70 75 80  
 Leu Arg His Leu Gln Ile Arg Glu Glu His Ser Glu Asn Ile Arg Lys  
 85 90 95  
 Tyr Ile Glu Trp Glu Leu Asn Ala Arg Ile Val Ser Leu Asp Ala Cys  
 100 105 110  
 Glu Pro Tyr Glu Leu Leu Val Lys Glu Met Gln Glu Leu Ile Gln Gln  
 115 120 125  
 Thr Leu Asp Lys Leu Pro Glu Arg Thr Arg Lys Ile Phe Ile Leu Ser  
 130 135 140  
 Arg Tyr Glu Asn Lys Ser Tyr Lys Glu Ile Ala Ala Leu Met Asn Met  
 145 150 155 160  
 Thr Thr Lys Gly Val Asp Phe His Ile Cys Lys Ala Leu Lys Ala Leu  
 165 170 175  
 Gln Ile Asn Leu Lys Asp Tyr Phe Pro Leu Phe Leu Tyr Phe Leu Met  
 180 185 190  
 Lys Phe His  
 195

&lt;210&gt; 7386

&lt;211&gt; 629

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7386

Glu Asp Arg Leu Lys Thr Met Glu Glu Asn Glu Leu Ile Pro Val Asp  
 1 5 10 15  
 Asn Asn Pro Val Glu Tyr Thr Asp Asp Asn Ile Arg His Leu Ser Asp  
 20 25 30  
 Met Glu His Val Arg Thr Arg Pro Gly Met Tyr Ile Gly Lys Leu Gly  
 35 40 45  
 Asp Gly Ser His Thr Glu Asp Gly Ile Tyr Val Leu Leu Lys Glu Val  
 50 55 60  
 Ile Asp Asn Ser Ile Asp Glu Phe Lys Met Gln Ser Gly Lys Lys Ile  
 65 70 75 80  
 Glu Ile Arg Val Glu Glu Asn Leu Arg Val Ser Val Arg Asp Tyr Gly  
 85 90 95  
 Arg Gly Ile Pro Gln Gly Lys Leu Ile Glu Ala Val Ser Val Leu Asn  
 100 105 110  
 Thr Gly Gly Lys Tyr Asp Ser Lys Ala Phe Lys Lys Ser Val Gly Leu  
 115 120 125  
 Asn Gly Val Gly Val Lys Ala Val Asn Ala Leu Ser Ser Asn Phe Glu  
 130 135 140  
 Val Arg Ser Tyr Arg Asp Gly Lys Val Arg Cys Ala Thr Phe Thr Lys  
 145 150 155 160  
 Gly Glu Leu Val Thr Asp His Thr Glu Asp Thr Glu Glu Glu Asn Gly  
 165 170 175  
 Thr Tyr Ile Phe Phe Glu Pro Asp Glu Thr Leu Phe Leu Asn Tyr Ser  
 180 185 190  
 Phe Arg Pro Glu Phe Ile Glu Thr Met Leu Arg Asn Tyr Thr Tyr Leu  
 195 200 205  
 Asn Thr Gly Leu Ala Ile Ile Tyr Asn Gly Gln Arg Ile Leu Ser Arg  
 210 215 220  
 Asn Gly Leu Val Asp Leu Leu Asn Asp Asn Met Thr Ala Thr Gly Leu  
 225 230 235 240

Tyr Pro Ile Val His Leu Lys Gly Glu Asp Ile Glu Ile Ala Phe Thr  
 245 250 255  
 His Thr Gly Gln Tyr Gly Glu Glu Tyr Tyr Ser Phe Val Asn Gly Gln  
 260 265 270  
 His Thr Thr Gln Gly Gly Thr His Gln Ser Ala Phe Lys Glu His Ile  
 275 280 285  
 Ala Arg Thr Ile Lys Glu Phe Tyr Asn Lys Asn Gln Asp Tyr Thr Asp  
 290 295 300  
 Ile Arg Asn Gly Leu Val Ala Ala Ile Ala Val Asn Val Glu Glu Pro  
 305 310 315 320  
 Met Phe Glu Ser Gln Thr Lys Ile Lys Leu Gly Ser Thr Asn Met Ser  
 325 330 335  
 Pro Gly Gly Ile Thr Val Asn Lys Phe Val Gly Asp Phe Ile Lys Gln  
 340 345 350  
 Glu Val Asp Asn Phe Leu His Lys His Ala Asp Ile Ala Glu Ile Met  
 355 360 365  
 Leu Gln Lys Ile Gln Asp Ser Glu Lys Glu Arg Lys Ala Ile Ala Gly  
 370 375 380  
 Val Thr Lys Leu Ala Arg Glu Arg Ala Lys Lys Ala Asn Leu His Asn  
 385 390 395 400  
 Arg Lys Leu Arg Asp Cys Arg Val His Leu Asn Asp Val Lys Gly Lys  
 405 410 415  
 Gly Leu Glu Glu Glu Ser Cys Ile Phe Ile Thr Glu Gly Asp Ser Ala  
 420 425 430  
 Ser Gly Ser Ile Thr Lys Ser Arg Asp Val Asn Thr Gln Ala Val Phe  
 435 440 445  
 Ser Leu Arg Gly Lys Pro Leu Asn Ser Phe Gly Leu Thr Lys Lys Val  
 450 455 460  
 Val Tyr Glu Asn Glu Glu Phe Asn Leu Leu Gln Ala Ala Leu Asn Ile  
 465 470 475 480  
 Glu Asp Gly Ile Glu Gly Leu Arg Tyr Asn Lys Val Ile Val Ala Thr  
 485 490 495  
 Asp Ala Asp Val Asp Gly Met His Ile Arg Leu Leu Ile Thr Phe  
 500 505 510  
 Phe Leu Gln Phe Phe Pro Asp Leu Ile Lys Lys Gly His Val Tyr Ile  
 515 520 525  
 Leu Gln Thr Pro Leu Phe Arg Val Arg Asn Lys Lys Lys Thr Leu Tyr  
 530 535 540  
 Cys Tyr Thr Glu Glu Glu Arg Val Asn Ala Ile Lys Glu Leu Ser Pro  
 545 550 555 560  
 Asn Pro Glu Ile Thr Arg Phe Lys Gly Leu Gly Glu Ile Ser Pro Asp  
 565 570 575  
 Glu Phe Arg His Phe Ile Gly Lys Asp Met Arg Leu Glu Gln Val Ser  
 580 585 590  
 Leu Arg Lys Thr Asp Thr Val Lys Glu Leu Leu Glu Phe Tyr Met Gly  
 595 600 605  
 Lys Asn Thr Met Glu Arg Gln Asn Phe Ile Ile Asp Asn Leu Val Ile  
 610 615 620  
 Glu Glu Asp Ile Ala  
 625

&lt;210&gt; 7387

&lt;211&gt; 160

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7387

Ser Gly Tyr Arg Arg Arg His Arg Ile Asn Met Arg Arg Ala Ile Phe  
 1 5 10 15

Pro Gly Thr Phe Asp Pro Phe Thr Ile Gly His Tyr Ser Val Val Gln  
     20                 25                 30  
 Arg Thr Leu Thr Phe Met Asp Glu Val Val Ile Gly Ile Gly Ile Asn  
     35                 40                 45  
 Glu Asn Lys Asn Thr Tyr Phe Pro Ile Glu Lys Arg Val Glu Met Ile  
     50                 55                 60  
 Arg Lys Phe Tyr Lys Asp Glu Pro Arg Ile Lys Val Glu Ser Tyr Asp  
     65                 70                 75                 80  
 Cys Leu Thr Ile Asp Phe Ala Arg Gln Val Asp Ala Gln Phe Ile Val  
     85                 90                 95  
 Arg Gly Ile Arg Thr Val Lys Asp Phe Glu Tyr Glu Glu Thr Ile Ala  
     100                105               110  
 Asp Ile Asn Arg Lys Leu Ala Gly Ile Glu Thr Ile Leu Leu Phe Thr  
     115                120               125  
 Glu Pro Glu Leu Thr Cys Val Ser Ser Thr Ile Val Arg Glu Leu Leu  
     130                135               140  
 Gly Tyr Asn Lys Asp Ile Ser Met Phe Ile Pro Lys Gly Met Glu Met  
     145                150               155               160

&lt;210&gt; 7388

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7388

His Asn Thr Arg Ile Leu Pro Ser Ile Arg Val Met Val Arg Leu Ala  
   1                 5                 10                 15  
 Lys Asn Asn Pro Lys Asn Gln Ser Arg Met Pro Glu Pro Thr Lys Val  
   20                25               30  
 Lys Arg Ser Lys Leu Leu Met Pro Val Ser Arg Lys Gly Val Met Glu  
   35                40               45  
 Ala Leu His Pro Asn Thr Lys Lys Met Leu Asn Arg Leu Leu Pro Ile  
   50                55               60  
 Thr Leu Pro Met Ala Ile Ser Gly Phe Phe Lys Ala Ala Thr Ile  
   65                70               75               80  
 Asp Val Ala Ser Ser Gly Arg Glu Val Pro Pro Ala Thr Ser Val Ser  
   85                90               95  
 Pro Ile Thr Asp Ser Leu Thr Pro Arg Cys Arg Ala Met Leu Leu Ala  
   100               105              110  
 Pro Ser Thr Asn His Cys Pro Pro Lys Ile Ser Pro Ala Asn Pro Pro  
   115               120              125  
 Arg Met Lys Ser Thr Asp Phe His Ile Gly Arg Leu Leu Ile Ser Ser  
   130               135              140  
 Ser Gly  
   145

&lt;210&gt; 7389

&lt;211&gt; 381

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7389

Ile Gln Ala Met Ala Ile Thr Ile Lys Lys Val Ser Thr Lys Arg Glu  
   1                 5                 10                 15  
 Leu Lys Lys Phe Ile Arg Phe Asn Tyr Glu Leu Tyr Lys Glu Asn Pro  
   20                25               30  
 Tyr Ser Val Pro Asp Leu Tyr Asp Asp Met Leu Asn Thr Phe Asn Lys  
   35                40               45  
 Lys Lys Asn Ala Ala Phe Glu Phe Cys Glu Ala Glu Tyr Phe Leu Ala

50	55	60
Tyr Lys Asp Gly Lys Ile Val Gly Arg Ile Ala Gly Ile Ile Asn His		
65	70	75
Arg Ala Asn Ala Thr Trp Asn Lys Lys Asp Val Arg Phe Gly Trp Ile		80
85	90	95
Asp Phe Ile Asp Asp Leu Glu Val Ser Ser Arg Leu Leu Gln Thr Val		
100	105	110
Glu Glu Trp Gly Lys Ser Lys Gly Met Glu Asn Ile Gln Gly Pro Leu		
115	120	125
Gly Phe Thr Asp Phe Asp Ala Glu Gly Met Leu Ile Glu Gly Phe Asp		
130	135	140
Gln Leu Ser Thr Met Ala Thr Ile Tyr Asn His Pro Tyr Tyr Pro Gln		
145	150	155
His Met Glu Lys Leu Gly Phe Glu Lys Asp Ala Asp Trp Val Glu Tyr		160
165	170	175
Lys Ile Tyr Ile Pro Asp Ala Ile Pro Glu Lys His Gln Arg Ile Ser		
180	185	190
Asp Leu Ile Gln Arg Lys Tyr Asn Leu Lys Ile Lys Lys Tyr Thr Ser		
195	200	205
Ser Arg Lys Ile Ala Ala Asp Tyr Gly Gln Ala Ile Phe Glu Leu Met		
210	215	220
Asn Glu Ala Tyr Ser Pro Leu Tyr Gly Tyr Ser Pro Leu Ser Gln Arg		
225	230	235
Gln Ile Asp Gln Tyr Val Lys Met Tyr Leu Pro Ile Val Asp Leu Arg		240
245	250	255
Met Val Thr Leu Ile Thr Asp Ala Glu Asp Lys Leu Ile Ala Val Gly		
260	265	270
Ile Ser Met Pro Ser Leu Ser Glu Ala Leu Gln Lys Ser His Gly Arg		
275	280	285
Leu Leu Pro Leu Gly Trp Tyr Tyr Leu Leu Lys Ala Leu Phe Met Lys		
290	295	300
Arg Arg Ala Lys Met Leu Asp Leu Leu Val Ala Val Lys Pro Glu		
305	310	315
Tyr Gln Asn Lys Gly Val Asn Ala Leu Leu Phe Ser Asp Leu Ile Pro		320
325	330	335
Val Tyr Gln Lys Leu Gly Phe Ile Phe Ala Glu Ser Asn Pro Glu Leu		
340	345	350
Glu Met Asn Gly Lys Val Gln Ala Gln Trp Glu Tyr Phe Lys Thr Glu		
355	360	365
Gln His Lys Arg Arg Ala Phe Thr Lys Lys Ile Asp		
370	375	380

&lt;210&gt; 7390

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7390

Phe Lys Gly Ile Asp Met Asp Ile Leu Leu Ile Gly Gly Leu Leu		
1	5	10
Leu Ile Leu Ile Gly Ala Asn Cys Leu Thr Asp Gly Ala Ala Ser Val		15
20	25	30
Ala Lys Arg Phe Arg Ile Pro Ser Ile Val Ile Gly Leu Thr Ile Val		
35	40	45
Ala Phe Gly Thr Ser Ala Pro Glu Leu Thr Val Ser Val Ser Ser Ala		
50	55	60
Leu Lys Gly Ser Ala Asp Ile Ala Val Gly Asn Val Val Gly Ser Asn		
65	70	75
Ile Phe Asn Thr Leu Met Ile Val Gly Cys Thr Ala Leu Phe Ala Pro		80

85	90	95
Ile Val Ile Thr Arg Asn Thr Leu Arg Lys Glu Ile Pro Leu Cys Ile		
100	105	110
Leu Ser Ser Ile Val Leu Leu Ile Cys Ala Asn Asp Val Phe Leu Asn		
115	120	125
Lys Ala Ser Ser Asn Ile Leu Ser Ile Ser Asp Gly Leu Ile Leu Leu		
130	135	140
Cys Phe Phe Thr Ile Phe Leu Gly Tyr Thr Phe Ala Ile Ala Ser Pro		
145	150	155
Thr Asn Asn Thr Gln Pro Glu Glu Ile Lys Ser Leu Pro Met Trp		
165	170	175
Lys Ser Val Leu Phe Ile Leu Gly Gly Leu Ala Gly Leu Ile Phe Gly		
180	185	190
Gly Gln Trp Phe Val Glu Gly Ala Ser Asn Ile Ala Arg His Leu Gly		
195	200	205
Val Ser Glu Ser Val Ile Gly Leu Thr Leu Val Ala Gly Gly Thr Ser		
210	215	220
Leu Pro Glu Leu Ala Thr Ser Ile Val Ala Ala Leu Lys Lys Asn Pro		
225	230	235
Glu Ile Ala Ile Gly Asn Val Ile Gly Ser Asn Leu Phe Asn Ile Phe		
245	250	255
Phe Val Leu Gly Cys Ser Ala Ser Ile Thr Pro Leu Arg Leu Thr Gly		
260	265	270
Ile Asn Asn Phe Asp Leu Phe Thr Leu Val Gly Ser Gly Ile Leu Leu		
275	280	285
Trp Phe Phe Gly Leu Phe Ala Lys Arg Thr Ile Thr Arg Ile Glu		
290	295	300
Gly Ser Ile Leu Val Leu Cys Tyr Ile Ala Tyr Thr Thr Tyr Leu Ile		
305	310	315
Tyr Gln Ile		320

&lt;210&gt; 7391

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7391

Thr His Val Ile Met Lys Arg Ile Ile Tyr Leu Leu Ile Gly Leu Cys		
1	5	10
Ser Val Leu Gly Leu Gln Ala Gln Asn Phe Gly Ser Pro Ala Met Arg		
20	25	30
Lys Leu Gln Leu Ala Glu Phe Ala Ile Ser Asn Leu Tyr Val Asp Thr		
35	40	45
Val Asn Glu Asn Lys Leu Val Glu Ser Ala Ile Ile Glu Met Leu Ala		
50	55	60
Gln Leu Asp Pro His Ser Thr Tyr Ser Asp Ala Glu Glu Val Lys Lys		
65	70	75
Met Asn Glu Pro Leu Gln Gly Asn Phe Glu Gly Ile Gly Val Gln Phe		
85	90	95
Gln Met Ile Glu Asp Thr Leu Leu Ile Val Gln Pro Val Ser Asn Gly		
100	105	110
Pro Ser Glu Lys Val Gly Ile Leu Ala Gly Asp Arg Ile Ile Ala Val		
115	120	125
Asn Asp Thr Ala Ile Ala Gly Val Lys Met Gly Thr Glu Glu Ile Met		
130	135	140
Gly Arg Leu Arg Gly Pro Lys Asp Ser Lys Val Asn Leu Thr Ile Ile		
145	150	155
Arg Arg Gly Val Lys Glu Pro Leu Leu Phe Asn Val Lys Arg Asp Lys		160

	165	170	175
Ile Pro Ile Leu Ser Leu Asp Ala Ala Tyr Met Ile Gln Pro Lys Ile			
180	185	190	
Gly Tyr Ile Arg Ile Asn Arg Phe Gly Ala Thr Thr Ala Glu Glu Phe			
195	200	205	
Leu Lys Ala Leu Lys Glu Leu Gln Lys Lys Gly Met Lys Asp Leu Ile			
210	215	220	
Leu Asp Leu Gln Gly Asn Gly Gly Tyr Leu Asn Ala Ala Ile Asp			
225	230	235	240
Leu Ala Asn Glu Phe Leu Gly Gln Lys Lys Leu Ile Val Tyr Thr Glu			
245	250	255	
Arg Pro Ser Ala Gln Arg Asn Glu Val Phe Gly Gln Gly Asn Gly Asn			
260	265	270	
Phe Arg Asn Gly Arg Leu Val Glu Leu Val Asp Lys Tyr Ser Leu Trp			
275	280	285	
Ala Val Lys Ile Gly Thr Gly Ala Ile Gln Asp Trp Glu Gln Arg Asn			
290	295	300	
Gly Gly			
305			

&lt;210&gt; 7392

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7392

Ser Lys Glu Thr Ile Asn Val Lys Leu Asn Phe Lys Arg Glu Phe Met			
1	5	10	15
Lys Arg Lys Leu Met Leu Leu Leu Thr Cys Leu Phe Met Gly Ile Gly			
20	25	30	
Leu Val Thr Ala Gln Thr Gln Lys Val Thr Gly Val Val Ile Ser Glu			
35	40	45	
Glu Asp Gly Gln Pro Val Val Gly Ala Ser Val Leu Ala Lys Gly Thr			
50	55	60	
Thr Val Gly Val Ile Thr Asp Val Asp Gly Lys Phe Thr Leu Ser Gly			
65	70	75	80
Ile Pro Ser Ser Ala Lys Thr Leu Gln Ile Ser Tyr Ile Gly Met Gln			
85	90	95	
Thr Ala Glu Val Ala Ile Ala Pro Asn Ile Arg Val Ile Leu Lys Thr			
100	105	110	
Asp Ser Lys Ala Leu Asp Glu Val Val Val Val Ala Tyr Gly Thr Gln			
115	120	125	
Ser Ala Arg Thr Val Thr Ala Ser Val Ser Thr Val Arg Ala Asp Ala			
130	135	140	
Leu Lys Asp Val Pro Ser Val Ser Phe Asp Gln Met Leu Gln Gly Arg			
145	150	155	160
Ala Ser Gly Val Ser Ile Thr Thr Pro Ser Ala Gly Val Gly Gln Ala			
165	170	175	
Pro Ile Val Arg Val Arg Gly Val Asn Ser Ile Thr Ser Gly Thr Ser			
180	185	190	
Pro Leu Tyr Val Val Asp Val Phe Thr Gly Gly Ala Met Ile Ala Arg			
195	200	205	
Gly			

&lt;210&gt; 7393

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7393

Leu Lys Ile Lys Glu Met Asp Lys Ile Ile Tyr Ser Leu Val Tyr Asn  
 1 5 10 15  
 Arg Lys Lys Ser Leu Asn Lys Lys Gly Met Ala Leu Val Gln Val Glu  
 20 25 30  
 Ala Tyr Leu Asn Arg Lys Lys Tyr Phe Ser Thr Lys Val Tyr Leu  
 35 40 45  
 Ser Pro Asp Gln Trp Asp Phe Lys Lys Arg Met Val Lys Asn His Pro  
 50 55 60  
 Asn Ala Asp Ala Ile Asn His Met Leu Tyr Glu Phe Met Ala Glu Ile  
 65 70 75 80  
 Glu Lys Lys Glu Leu Gly Leu Trp Gln Gln Gly Lys Gln Ile Ser Leu  
 85 90 95  
 Asp Ser Leu Lys Asn Ser Met Glu Asn Gln Asp Asp Ser Thr Ser Phe  
 100 105 110  
 Ile Ala Phe Phe Arg Asn Glu Ile Ala Lys Ser Ser Leu Lys Glu Ser  
 115 120 125  
 Thr Lys Arg Asn His Leu Ser Thr Leu Glu Leu Leu Arg Ser Tyr Lys  
 130 135 140  
 Lys Asp Val Ser Phe Ser Glu Leu Thr Phe Glu Phe Ile Ser Ser Phe  
 145 150 155 160  
 Asp His Tyr Leu Gln Gln Lys Gly Tyr His Thr Asn Thr Ile Ala Lys  
 165 170 175  
 His Met Lys His Leu Lys Arg His Ile Asn Val Ala Ile Asn Lys Glu  
 180 185 190  
 Tyr Met Glu Ile Gln Lys Tyr Ala Phe Arg Lys Tyr Lys Ile Lys Ser  
 195 200 205  
 Val Glu Asn Asn His Thr His Leu Ser Pro Glu Glu Leu Gly Lys Ile  
 210 215 220  
 Glu Ser Leu Glu Leu Gly Gly Arg Phe Thr Lys Leu Glu Lys Thr Lys  
 225 230 235 240  
 Asp Ala Phe Leu Phe Cys Cys Tyr Ala Gly Leu Arg Tyr Ser Asp Phe  
 245 250 255  
 Thr Asn Leu Ser Pro Glu Asn Ile Val Lys Met His Gln Glu Thr Trp  
 260 265 270  
 Leu Ile Tyr Lys Ser Val Lys Thr Asn Thr Glu Val Arg Leu Pro Leu  
 275 280 285  
 Tyr Leu Leu Phe Glu Gly Lys Gly Ile Glu Val Leu Asn Lys Tyr Gln  
 290 295 300  
 Asp Asp Leu Ala Asp Phe Phe Lys Leu Arg Asp Asn Ser Asn Val Asn  
 305 310 315 320  
 Lys Glu Leu Leu Ile Ile Ala Lys Leu Ser Gly Leu Asn Lys Arg Ile  
 325 330 335  
 Ser Phe His Thr Ala Arg His Thr Asn Ala Thr Leu Leu Ile Tyr Ser  
 340 345 350  
 Gly Val Asn Ile Thr Thr Val Gln Lys Leu Leu Gly His Lys Ser Val  
 355 360 365  
 Lys Thr Thr Gln Val Tyr Thr Asn Ile Met Asp Ile Thr Ile Val Arg  
 370 375 380  
 Asp Leu Glu Lys Ser Lys Asn Asn Arg Lys Val Ser Tyr Met  
 385 390 395

&lt;210&gt; 7394

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7394

Lys Leu Lys Pro Met Lys Lys Asn Leu Tyr Trp Met Ala Ala Ala Phe  
 1 5 10 15  
 Ile Thr Leu Thr Ala Val Gly Cys Thr Asn Ala Lys Lys Ala Asp Val  
 20 25 30  
 Ser Ala Ala Gly Ser Asp Thr Thr Gln Val Ile Asp Met His Thr Ala  
 35 40 45  
 Glu Thr Ser Leu Asp Tyr Tyr Gly Val Tyr Lys Gly Thr Val Pro Ala  
 50 55 60  
 Ala Asp Cys Pro Gly Ile Glu Leu Thr Leu Thr Leu Lys Lys Asp Arg  
 65 70 75 80  
 Thr Tyr Thr Tyr His Trp Ala Tyr Ile Asp Arg Lys Asp Ala Asp Phe  
 85 90 95  
 Asp Glu Thr Gly Thr Phe Thr Val Lys Asp Asn Leu Leu Thr Leu Thr  
 100 105 110  
 Glu Lys Gly Gly Glu Val Ser Tyr Phe Lys Val Gln Glu Gly Ser Leu  
 115 120 125  
 Val Met Leu Asn Asn Glu Lys Gln Pro Ala Thr Gly Thr Leu Ala Asp  
 130 135 140  
 Ala Tyr Val Leu Lys Gln Glu Glu Val Phe Leu Asp  
 145 150 155

&lt;210&gt; 7395

&lt;211&gt; 738

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7395

Thr His Phe Thr Lys Lys Tyr Ala Cys Met Gln Arg Ala Lys Lys Asn  
 1 5 10 15  
 Tyr Leu Ile Tyr Ala Val Met Leu Leu Leu Phe Gly Ala Leu Ile Tyr  
 20 25 30  
 Met Ala Ile Glu Glu Gly Asp Arg Phe Ser His His Ala Val Ala Ser  
 35 40 45  
 Ser Thr Val Ala Glu Asp Thr Pro Phe Thr Met Phe Cys Gln Phe Val  
 50 55 60  
 Thr Asp Asn Leu His His Pro Leu Ser Ile Leu Leu Ile Gln Ile Ile  
 65 70 75 80  
 Ala Val Leu Leu Met Val Arg Leu Phe Gly Phe Leu Phe Lys His Ile  
 85 90 95  
 Gly Gln Pro Gly Val Ile Gly Glu Ile Val Ala Gly Ile Val Leu Gly  
 100 105 110  
 Pro Ser Val Leu Gly Tyr Phe Phe Pro Asp Val Phe Gln Ala Leu Phe  
 115 120 125  
 Pro Pro Glu Ser Leu Thr Asn Leu Glu Leu Leu Ser Gln Val Gly Leu  
 130 135 140  
 Val Leu Phe Met Phe Val Ile Gly Met Glu Leu Asp Phe Ser Val Leu  
 145 150 155 160  
 Lys Asn Lys Ile Asn Glu Thr Leu Val Ile Ser His Ala Gly Ile Leu  
 165 170 175  
 Val Pro Phe Phe Leu Gly Ile Val Ala Ser Tyr Trp Ile Tyr Glu Glu  
 180 185 190  
 Tyr Ala Ala Ala Gln Thr Ala Phe Leu Pro Phe Ala Leu Phe Ile Gly  
 195 200 205  
 Ile Ser Met Ser Ile Thr Ala Phe Pro Val Leu Ala Arg Ile Ile Gln  
 210 215 220  
 Glu Arg Asn Met Thr Lys Thr Ser Leu Gly Thr Leu Ala Ile Ala Ser  
 225 230 235 240  
 Ala Ala Asn Asp Asp Val Thr Ala Trp Cys Leu Leu Ala Val Val Ile  
 245 250 255

Ala Ile Ala Lys Ala Gly Thr Phe Ala Ser Ala Leu Tyr Ala Ile Gly  
 260 265 270  
 Leu Thr Ala Leu Tyr Ile Ile Met Phe Met Val Val Arg Pro Phe  
 275 280 285  
 Leu Lys Lys Val Gly Glu Val Tyr Ala Asn Gln Glu Val Ile Asn Lys  
 290 295 300  
 Thr Phe Val Ala Leu Ile Leu Leu Ile Ile Ser Ser Thr Leu  
 305 310 315 320  
 Thr Glu Ile Ile Gly Ile His Ala Leu Phe Gly Ala Phe Met Ala Gly  
 325 330 335  
 Val Val Met Pro Pro Ser Ile Gly Phe Arg Lys Val Met Met Glu Lys  
 340 345 350  
 Val Glu Asp Ile Ala Leu Val Phe Phe Leu Pro Leu Phe Phe Ala Phe  
 355 360 365  
 Thr Gly Leu Arg Thr Glu Ile Gly Leu Ile Asn Ser Pro Ala Leu Trp  
 370 375 380  
 Gly Val Cys Leu Leu Leu Ile Thr Val Ala Val Ala Gly Lys Leu Gly  
 385 390 395 400  
 Gly Cys Ala Val Ala Ala Arg Leu Val Gly Glu Ser Trp Lys Asp Ser  
 405 410 415  
 Phe Thr Ile Gly Thr Leu Met Asn Thr Arg Gly Leu Met Glu Leu Val  
 420 425 430  
 Ala Leu Asn Ile Gly Tyr Glu Met Gly Val Leu Pro Pro Ser Ile Phe  
 435 440 445  
 Val Ile Leu Val Ile Met Ala Leu Val Thr Thr Phe Met Thr Thr Pro  
 450 455 460  
 Leu Leu His Leu Val Glu Arg Val Phe Ala Arg Arg Glu Glu Arg Leu  
 465 470 475 480  
 Ser Ala Lys Leu Lys Leu Val Phe Cys Phe Gly Arg Pro Glu Ser Gly  
 485 490 495  
 Arg Ser Leu Leu Ser Ile Phe Phe Leu Leu Phe Gly Lys Lys Met Lys  
 500 505 510  
 Ala Ala Gln Val Val Ala Ala His Phe Thr Val Gly Thr Asp Leu Asn  
 515 520 525  
 Pro Leu Asn Ala Glu Gln Tyr Ala Arg Asp Ser Phe Ser Leu Val Asp  
 530 535 540  
 Glu Lys Ala Ser Glu Leu Gly Leu Ser Val Glu Asn Arg Tyr Arg Val  
 545 550 555 560  
 Thr Asp Lys Leu Val Gln Asp Met Ile Arg Leu Ala Arg Lys Glu Arg  
 565 570 575  
 Pro Asp Met Phe Leu Leu Gly Ala Gly Ser Lys Tyr Arg Pro Asp Thr  
 580 585 590  
 Ala Gly Ser Asn Gly Val Leu Trp Leu Ser Leu Phe Arg Asp Lys Ile  
 595 600 605  
 Asp Asp Val Met Glu Gln Val Lys Cys Pro Val Ala Val Phe Val Asn  
 610 615 620  
 Arg Gly Tyr Ser Gly Ser Ser Pro Val Ser Phe Val Leu Gly Gly Val  
 625 630 635 640  
 Ile Asp Ala Phe Leu Leu Thr Tyr Leu Glu Ser Met Leu Glu Gly Gly  
 645 650 655  
 Ala Gln Val His Leu Phe Leu Phe Asp Thr Asp Asp Glu Ala Phe Arg  
 660 665 670  
 Gln Ser Thr Asp Pro Ile Leu Ala Lys Tyr Ser Ser Gln Ile Arg Thr  
 675 680 685  
 Arg Pro Phe Ser Gly Ala Ala Asn Leu Thr Ser Ala Ala Lys Asp Gly  
 690 695 700  
 Leu Leu Val Met Ser His Leu Ser Tyr Thr Lys Leu Ser Glu Glu Glu  
 705 710 715 720  
 Glu Val Phe Arg Asp Leu Pro Ser Leu Leu Val Ile Arg Arg Pro Lys

725

730

735

Lys Gly

&lt;210&gt; 7396

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7396

Asn	Glu	Gly	Thr	Thr	Ala	Ala	Gly	Glu	Asp	Ala	Asn	Leu	Glu	Gln	Thr
1					5				10					15	
Arg	Leu	Gln	Gln	Gln	Ser	Leu	Asn	Glu	Gln	Met	Leu	Leu	Glu	Leu	Thr
					20				25					30	
Arg	Ala	Ala	Asn	Asn	Leu	Asp	Glu	Ala	Lys	Leu	Glu	Ser	Glu	Leu	Ala
					35				40					45	
Asp	Arg	Ser	Leu	Gln	Gln	Ala	Glu	Glu	Asn	Arg	Arg	Val	Ser	Lys	Asn
					50				55					60	
Gln	Tyr	Glu	Val	Gly	Leu	Glu	Thr	Leu	Ser	Asp	His	Leu	Glu	Gly	Gln
					65				70					80	
Ala	Leu	Trp	Gln	Gln	Ala	Tyr	Glu	Thr	Lys	Val	Asn	Ala	His	Phe	Gln
					85				90					95	
Leu	Tyr	Leu	Asn	Tyr	Val	Ala	Tyr	Leu	Lys	Ala	Ala	Gly	Ile	Leu	Tyr
					100				105					110	
Asn	Lys	Ile	Asn	Leu											
					115										

&lt;210&gt; 7397

&lt;211&gt; 182

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7397

Tyr	Asp	Met	Ala	Lys	Ile	Gln	Ile	Lys	Ser	Glu	Lys	Leu	Thr	Pro	Phe
1					5				10					15	
Gly	Gly	Ile	Phe	Ser	Ile	Met	Glu	Lys	Phe	Asp	Ser	Met	Leu	Ser	Pro
					20				25					30	
Val	Ile	Asp	Ser	Thr	Leu	Gly	Gln	Arg	Cys	Ser	Ser	Ile	Phe	Gly	Tyr
					35				40					45	
Gln	Phe	Ser	Glu	Ile	Val	Arg	Ser	Leu	Met	Ser	Val	Tyr	Phe	Cys	Gly
					50				55					60	
Gly	Ser	Cys	Val	Glu	Asp	Val	Thr	Ser	Gln	Leu	Met	Arg	His	Leu	Ser
					65				70					80	
Tyr	His	Pro	Thr	Leu	Arg	Thr	Cys	Ser	Ser	Asp	Thr	Ile	Leu	Arg	Ala
					85				90					95	
Ile	Lys	Glu	Leu	Thr	Gln	Glu	Asn	Ile	Ser	Tyr	Thr	Ser	Asp	Gln	Gly
					100				105					110	
Lys	Thr	Tyr	Asp	Phe	Asn	Thr	Ala	Asp	Lys	Leu	Asn	Thr	Leu	Leu	Ile
					115				120					125	
Asn	Ala	Leu	Val	Ser	Thr	Gly	Glu	Leu	Lys	Glu	Ile	Glu	Glu	Tyr	Asp
					130				135					140	
Val	Asp	Phe	Asp	His	Gln	Phe	Leu	Glu	Thr	Glu	Lys	Tyr	Asp	Ala	Lys
					145				150					160	
Pro	Thr	Tyr	Lys	Lys	Phe	Leu	Gly	Tyr	Arg	Pro	Gly	Val	Tyr	Val	Ile
					165				170					175	
Gly	Asp	Lys	Ile	Val	Tyr										
					180										

&lt;210&gt; 7398

<211> 83  
<212> PRT  
<213> B.fragilis

<400> 7398  
Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe  
1 5 10 15  
Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met  
20 25 30  
Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu  
35 40 45  
Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu  
50 55 60  
Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser  
65 70 75 80  
Ser Ala Arg

<210> 7399  
<211> 358  
<212> PRT  
<213> B.fragilis

<400> 7399  
Arg Leu Lys Lys Gln Asn Lys Arg Met Thr Gly Ile Glu Lys Thr Val  
1 5 10 15  
Thr Asn Arg Ser Gly Ala Gly Ala Leu Val Leu Cys Thr Ile Leu Phe  
20 25 30  
Cys Leu Cys Ala Cys Thr Glu Asp Ala Ser Tyr Thr Ala Gly Val Trp  
35 40 45  
Tyr Arg Arg Ser Asp Phe Asp Gly Val Ala Arg Thr Asp Ala Ala Gly  
50 55 60  
Phe Thr Ile Gly Asn Lys Gly Tyr Ile Cys Gly Gly Tyr Asn Gly Lys  
65 70 75 80  
Thr Thr Arg Leu Ala Asp Thr Trp Glu Tyr Asp Ile Asp Asn Asp Trp  
85 90 95  
Trp Thr Gln Arg Ala Asp Met Pro Gly Thr Val Arg Asn Ala Ala Thr  
100 105 110  
Gly Phe Pro Val Gly Asn Lys Gly Tyr Ile Thr Thr Gly Tyr Asn Pro  
115 120 125  
Asp Gln Lys Tyr Leu Ala Asp Thr Trp Glu Tyr Asp Pro Glu Thr Asn  
130 135 140  
Thr Trp Arg Gln Met Asp Asp Phe Lys Gly Gly Ala Arg Tyr Tyr Ala  
145 150 155 160  
Leu Gly Phe Gly Ile Asp Asn Tyr Gly Tyr Val Gly Thr Gly Tyr Asn  
165 170 175  
Asp Asn Tyr Leu Lys Asp Phe Tyr Arg Phe Asp Pro Thr Ala Ala Ala  
180 185 190  
Gly Ser Gln Trp Thr Ile Val Asn Gly Phe Gly Gly Gln Lys Arg Gln  
195 200 205  
Gly Ala Thr Ala Phe Val Ile Asn Gly Lys Ala Tyr Val Cys Gly Gly  
210 215 220  
Gln Asn Asn Asn Ser Asp Val Ser Asp Phe Trp Arg Phe Asp Pro Ser  
225 230 235 240  
Ala Ala Thr Pro Trp Thr Gln Leu Arg Asp Ile Ala Asn Thr Ser Asp  
245 250 255  
Asp Asp Tyr Asp Asp Tyr Thr Ser Ile Val Arg Ser Tyr Gly Val  
260 265 270  
Ser Phe Val Ile Asp Gly Lys Ala Tyr Leu Thr Leu Gly Ser Thr Ala

275	280	285
Gly Gly Ser Tyr Tyr Ser Asn Tyr Trp Ile Tyr Asp Pro Glu Thr Asp		
290	295	300
Leu Trp Glu Gly Asp Asp Leu Thr Ala Phe Glu Gly Ser Thr Arg Ile		
305	310	315
His Ala Val Cys Phe Ser Thr Gly Thr Arg Gly Ile Ile Ala Thr Gly		
325	330	335
Gly Ser Gly Ser Ser Ser Tyr Phe Asp Asp Thr Trp Glu Leu Lys Pro		
340	345	350
Tyr Glu Tyr Glu Glu Glu		
355		

&lt;210&gt; 7400

&lt;211&gt; 402

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7400

Pro Met Lys Arg Asn Leu Ile Leu Leu Leu Thr Leu Cys His Ser Thr			
1	5	10	15
Leu Leu Ile Tyr Ser Gln Asn Thr Thr Asn Ser Pro Thr Ser Met Phe			
20	25	30	
Gly Leu Gly Glu Leu Ser Thr Gly Glu Gly Gly Gln Tyr Ser Gly Leu			
35	40	45	
Gly Gly Ala Gly Ile Ala Leu Gln Ser Tyr Asn Phe Leu Asn Thr Ala			
50	55	60	
Asn Pro Ala Ser Leu Thr Ala Ile Glu Gly Gln Arg Phe Leu Ile Asp			
65	70	75	80
Ala Gly Val Met Gly Ala Tyr Lys Val Tyr Thr Gln Thr Gly Thr Ser			
85	90	95	
Asn His Ser Leu Val Gly Asn Leu Asn Leu Ser Ile Gly Cys Arg			
100	105	110	
Ile Thr Pro Arg Trp Tyr Gly Ala Val Phe Met Ala Pro Val Ser Ser			
115	120	125	
Val Gly Tyr Ala Ile Thr Leu Asp Gln Asp Ile Thr Gly Thr Gly Ser			
130	135	140	
Ser Thr Val Ser Ser Leu Phe Glu Gly Glu Gly Leu Ser Lys Met			
145	150	155	160
Gly Ile Ser Thr Ala Tyr Arg Leu Phe Lys Gly Phe Ser Val Gly Ala			
165	170	175	
Asn Leu Ser Tyr Val Thr Gly Thr Ile Lys Gln Thr Glu Thr Gln Gly			
180	185	190	
Ser Ile Asn Val Glu Glu Ser Ser Tyr Lys His Ala Phe Tyr Ala Asp			
195	200	205	
Phe Gly Leu Gln Tyr Lys Phe Ser Leu Ser Arg Asn Lys Tyr Leu Val			
210	215	220	
Ala Gly Ala Val Tyr Tyr Ser Gln Asp Leu Ala Gln Asp Asn Thr			
225	230	235	240
Leu Ser Val Ser Ser Thr Ser Gly Asn Glu Ser Ile Asp Glu Ser Gln			
245	250	255	
Arg His Val Arg Gln Cys Leu Pro Gln Phe Val Gly Ala Gly Leu Ala			
260	265	270	
Tyr Asn Ser Pro His Trp Thr Leu Thr Val Glu Tyr Lys Tyr Thr Asp			
275	280	285	
Trp Ser Arg Met Lys Ser Ser Gln Ser Asn Val Arg Phe Glu Asn Gln			
290	295	300	
His Arg Leu Ser Ala Gly Thr Ala Tyr Thr Ala Gly Asn Ile Tyr Arg			
305	310	315	320
Asn Pro Val Lys Leu Leu Gly Ala Gly Val Ser Asn Ser Tyr Ile			

325	330	335
Val Ile Gln Lys Lys Lys Ala Thr Asn Tyr Tyr Val Ser Ala Gly Ser		
340	345	350
Asn Phe Thr Leu Tyr Asn Gly Asn Val Leu Ser Leu Gly Val Lys Tyr		
355	360	365
Ser Asp Gln Leu His Leu Pro Asn Gly Met Gln Arg Glu Arg Gly Val		
370	375	380
Thr Leu Phe Phe Asn Phe Thr Phe Ser Glu Arg Thr Tyr Arg Ala Lys		
385	390	395
Ile Gln		400

&lt;210&gt; 7401

&lt;211&gt; 466

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7401

Ile Val Pro Ile Ser Arg Ser Phe Phe Tyr Arg Glu Asn Lys Ser Ser			
1	5	10	15
Ser Phe Ala Ala Lys Met Ile Arg Phe Met Lys Arg Lys Asn Leu Ser			
20	25	30	
Leu Phe Phe Ile Thr Leu Phe Ile Ser Leu Leu Ala Ser Cys Arg Asp			
35	40	45	
Glu Leu Ser Thr Ala Gly Gly Lys Trp Val Glu Ser Ser Leu Arg Thr			
50	55	60	
Ile Gln Thr Asp Thr Cys Thr Val Arg Leu Ser Thr Ile Leu Ser Asp			
65	70	75	80
Ser Leu Ala Thr Ser Gly Asp Thr Val Cys Gln Ile Gly Thr Ile Asp			
85	90	95	
Asp Pro Val Trp Gly Lys Ile Glu Ala Ala Phe Tyr Val Glu Tyr Asp			
100	105	110	
Val Pro Thr Val Ser Phe Ser Glu Asn Ala Asp Tyr Arg Phe Asp Ser			
115	120	125	
Ile Thr Ile Arg Phe Tyr Ser Ser Gly Asn Tyr Leu Gly Asp Thr Leu			
130	135	140	
Ser Pro Gln Arg Ile Ser Leu His Ser Leu Ser Glu Asn Leu Ser Leu			
145	150	155	160
Asp Glu Gly Tyr Leu Tyr Thr Ser Lys Val Ser Tyr His Ser Thr			
165	170	175	
Pro Leu Ala Ser Phe Thr Phe Thr Pro Thr Pro Gly Glu Thr Ile Arg			
180	185	190	
Glu His Glu Ile Arg Leu Pro Asp Glu Trp Gly Val Glu Trp Phe Glu			
195	200	205	
His Phe Gln Ala Gly Ser Arg Glu Met Glu Ser Gln Glu Tyr Phe Arg			
210	215	220	
Asp Tyr Phe Lys Gly Ile Ala Phe Ile Pro Glu Glu Gly Gly Asn Cys			
225	230	235	240
Val Asn Gly Phe Met Val Asn Asp Ser Ser Leu Cys Ile Thr Leu Tyr			
245	250	255	
Tyr His Gln Thr Glu Thr Asp Ala Thr Glu Leu Ser Ala Asp Phe Leu			
260	265	270	
Pro Asn Ser Asp Leu Arg Phe Asn Gln Val Ser Cys Asp Arg Ser Arg			
275	280	285	
Thr Ala Leu Ser Ser Leu Gln Ser Gly Leu Asn Asn Gly Leu Pro Ser			
290	295	300	
Glu Lys Ser Glu His Gln Ser Tyr Leu Gln Gly Leu Thr Gly Met Tyr			
305	310	315	320
Ile Asn Ile Asp Phe Pro Phe Leu Asn Asp Leu Arg Ala Glu Gly Arg			

325	330	335
Leu Val Thr Ile Glu Ser Ala Leu	Leu Arg Leu Tyr Pro Val	Lys Gly
340	345	350
Thr Tyr Gly Lys Gln Tyr Pro Leu	Pro Glu Ser Leu Thr	Leu Tyr Thr
355	360	365
Ala Asp Glu Asn Asn Val Thr	Glu Asp Val Val	Thr Asp Ile Ser Gly
370	375	380
Ser Ser Val Gln Thr Gly	Ser Leu Val Thr	Asp Glu Met Met Gly Glu
385	390	395
Asp Thr Tyr Tyr Ser Phe Asp Ile	Thr Ser Phe Leu Gln Ser Asn Leu	
405	410	415
Gly Thr Val Gly Tyr Asn Arg Lys	Ile Leu Gln Leu Met	Leu Pro Asp
420	425	430
Asn Leu Phe Phe Thr Thr Leu Asn Gly	Val Val Phe Gly	Asp Ala Gly
435	440	445
His Pro Asp Ser Asn Pro Val	Lys Leu Thr Leu	Tyr Lys Thr Tyr
450	455	460
Asn Pro		
465		

&lt;210&gt; 7402

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7402

Gly Arg Arg Ala Arg Pro Ile Ala Ala	Cys Thr Met Gly Glu Lys Thr		
1	5	10	15
Val Asp Glu Glu Val Pro Val Leu	Phe Glu Tyr Pro Leu Met Asn Asp		
20	25	30	
Val Met Arg Ile Val Lys Glu Glu	Pro Glu Ile Leu Ser Gln Ser		
35	40	45	
Tyr Asp Met Asp Ala Ser Met	Thr Leu Arg Ile Arg Gln Ser Ala Met		
50	55	60	
Pro Arg Leu Arg Ser Arg Leu Glu	Lys Val Glu Thr Ala Arg Ile Thr		
65	70	75	80
Asp Glu Gln Glu Gly Asn Gly			
85			

&lt;210&gt; 7403

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7403

Ser Ala Val Leu Met Ala Thr Ile Lys	Pro Phe Lys Gly Ile Arg Pro		
1	5	10	15
Pro Gln Asp Leu Val Glu Gln Val Ala	Ser Arg Pro Tyr Asp Val Leu		
20	25	30	
Asn Ser Glu Glu Ala Arg Ala Glu Ala	Asn Asp Lys Ser Leu		
35	40	45	
Tyr His Ile Ile Lys Pro Glu Ile Asp	Phe Pro Val Gly Thr Asp Glu		
50	55	60	
His Asp Glu Lys Val Tyr Ala Lys Ala	Glu Asn Phe Arg Leu Phe		
65	70	75	80
Arg Asp Lys Gly Trp Leu Val Gln Asp	Asp Lys Glu Asn Tyr Tyr Ile		
85	90	95	
Tyr Ala Gln Thr Met Asn Gly Lys	Thr Gln Tyr Gly Leu Val Val Gly		
100	105	110	

Ala Tyr Val Pro Asp Tyr Met Asn Gly Val Ile Lys Lys His Glu Leu  
     115              120              125  
 Thr Arg Arg Asp Lys Glu Glu Asp Arg Met Lys His Val Arg Val Asn  
     130              135              140  
 Asn Ala Asn Ile Glu Pro Val Phe Phe Ala Tyr Pro Asp Asn Ala Val  
     145              150              155              160  
 Leu Asp Ala Ile Ile Arg Lys Tyr Thr Ala Gln Lys Pro Val Tyr Asp  
     165              170              175  
 Phe Ile Ala Pro Gly Asp Gly Phe Gly His Thr Phe Trp Val Ile Asp  
     180              185              190  
 Asn Ser Glu Asp Ile Ala Val Ile Thr Lys Glu Phe Ala Ala Met Pro  
     195              200              205  
 Ala Leu Tyr Ile Ala Asp Gly His His Arg Ser Ala Ala Ala Leu  
     210              215              220  
 Val Gly Ala Glu Lys Ala Lys Gln Asn Pro Asn His Arg Gly Asp Glu  
     225              230              235              240  
 Glu Tyr Asn Tyr Phe Met Ala Val Cys Phe Pro Ala Asn Gln Leu Thr  
     245              250              255  
 Ile Ile Asp Tyr Asn Arg Val Val Lys Asp Leu Asn Gly Leu Thr Pro  
     260              265              270  
 Ala Glu Phe Leu Thr Ala Leu Gly Lys Asn Phe Glu Ile Glu Glu Lys  
     275              280              285  
 Gly Lys Glu Ile Tyr Lys Pro Asn Ala Leu His Asn Phe Ala Leu Tyr  
     290              295              300  
 Leu Asp Gly Lys Trp Tyr Ser Leu Thr Ala Lys Pro Gly Thr Tyr Asp  
     305              310              315              320  
 Asp Asn Asp Pro Ile Gly Val Leu Asp Val Thr Ile Ser Ser Asn Leu  
     325              330              335  
 Ile Leu Asp Glu Ile Leu Gly Ile Lys Asp Leu Arg Ser Asp Arg Arg  
     340              345              350  
 Ile Asp Phe Val Gly Gly Ile Arg Gly Leu Gly Glu Leu Ser Arg Arg  
     355              360              365  
 Val Asp Ser Gly Glu Met Lys Val Ala Leu Ala Leu Tyr Pro Val Ser  
     370              375              380  
 Met Lys Gln Leu Met Asp Ile Ala Asp Thr Gly Asn Ile Met Pro Pro  
     385              390              395              400  
 Lys Thr Thr Trp Phe Glu Pro Lys Leu Arg Ser Gly Leu Val Ile His  
     405              410              415  
 Glu Leu Glu

&lt;210&gt; 7404

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7404

Asn Met Ser Gln Leu Phe Ser Lys Lys Asn Lys Glu Val Phe Ala Thr  
 1              5              10              15  
 Pro Leu Gly Leu Asn Asn Pro Val Thr Val Gln Val Leu Gly Ile Cys  
     20              25              30  
 Ser Ala Leu Ala Val Thr Ala Lys Leu Glu Pro Ala Ile Val Met Gly  
     35              40              45  
 Leu Ser Val Thr Val Ile Thr Ala Phe Ser Asn Val Val Ile Ser Leu  
     50              55              60  
 Leu Arg Lys Thr Ile Pro Asn Arg Ile Arg Ile Ile Val Gln Leu Val  
     65              70              75              80  
 Val Val Ala Ala Leu Val Thr Ile Val Ser Glu Val Leu Lys Ala Phe  
     85              90              95

Ala Tyr Asp Val Ser Val Gln Leu Ser Val Tyr Val Gly Leu Ile Ile  
     100                     105                     110  
 Thr Asn Cys Ile Leu Met Gly Arg Leu Glu Ala Phe Ala Met Ala Asn  
     115                     120                     125  
 Gly Pro Trp Glu Ser Phe Leu Asp Gly Val Gly Asn Gly Leu Gly Tyr  
     130                     135                     140  
 Ala Lys Ile Leu Ile Ile Val Ala Phe Phe Arg Glu Leu Leu Gly Ser  
     145                     150                     155                     160  
 Gly Thr Leu Leu Asn Phe Arg Ile Ile Pro Glu Ser Phe Tyr Lys Met  
     165                     170                     175  
 Gly Tyr Ile Asn Asn Gly Leu Met Leu Met Pro Pro Met Ala Leu Ile  
     180                     185                     190  
 Ile Cys Ala Cys Ile Ile Trp Tyr Gln Arg Ser Arg Cys Lys Glu Leu  
     195                     200                     205  
 Gln Glu Lys  
     210

<210> 7405  
 <211> 164  
 <212> PRT  
 <213> B.fragilis

<400> 7405  
 Phe Val Ala Asn Ser Phe Cys Val Pro Asp Tyr Ser Asn Met Tyr Val  
     1                     5                     10                     15  
 Phe Pro Tyr Leu Cys Arg Arg Ser Asn Tyr Tyr Gln Glu Thr Asp Met  
     20                     25                     30  
 Gly Arg Lys Glu Glu Tyr Lys Leu Gln Asn Glu Gln Phe Met Gln Thr  
     35                     40                     45  
 Leu Arg Thr Glu Ala Asp Val His Glu Leu Pro Cys Gly Ile Leu Tyr  
     50                     55                     60  
 Lys Val Leu Glu Glu Gly Thr Gly Ala Ala Thr Pro Arg Ser Asn Ser  
     65                     70                     75                     80  
 Val Val Ser Val His Tyr Lys Gly Thr Leu Ile Asn Gly Arg Glu Phe  
     85                     90                     95  
 Asp Asn Ser Trp Lys Arg Asn Cys Pro Glu Ala Phe Arg Leu Asn Glu  
     100                     105                     110  
 Val Ile Glu Gly Trp Gln Ile Ala Leu Gln Lys Met Arg Val Gly Asp  
     115                     120                     125  
 His Trp Ile Val Tyr Ile Pro Tyr Asn Met Gly Tyr Gly Thr Arg Thr  
     130                     135                     140  
 Ser Gly Pro Ile Pro Ala Phe Ser Thr Leu Ile Phe Glu Val Gln Leu  
     145                     150                     155                     160  
 Leu Gly Ile Ala

<210> 7406  
 <211> 429  
 <212> PRT  
 <213> B.fragilis

<400> 7406  
 Ser Lys Lys Asn Lys Thr Met Thr Ser Leu Ile Leu Ala Ser Ile Gly  
     1                     5                     10                     15  
 Val Phe Leu Val Val Ile Ile Leu Leu Val Ile Ile Leu Leu Val Ala  
     20                     25                     30  
 Lys Ser Tyr Leu Ser Pro Ser Gly Glu Val Thr Ile Thr Met Asn Gly  
     35                     40                     45  
 Glu Gln Gln Leu Lys Thr Ser Gln Gly Gly Thr Leu Leu Gly Thr Leu

50	55	60
Ser Ala Asn Asn Val Phe Leu Ser Ser Ala Cys Gly Gly Lys Gly Ser		
65	70	75
Cys Gly Gln Cys Arg Cys Gln Val Leu Glu Gly Gly Glu Ile Leu		80
85	90	95
Pro Thr Glu Thr Gly Phe Phe Ser Arg Lys Glu Gln Ala Asp His Trp		
100	105	110
Arg Leu Gly Cys Gln Val Lys Val Lys Gln Asp Met Ser Ile Lys Ile		
115	120	125
Asp Glu Ser Ile Leu Gly Val Lys Glu Trp Glu Cys Glu Val Ile Ser		
130	135	140
Asn Lys Asn Val Ala Thr Phe Ile Lys Glu Phe Ile Val Ala Leu Pro		
145	150	155
Pro Gly Glu His Met Asp Phe Val Pro Gly Ser Tyr Ala Gln Ile Lys		
165	170	175
Ile Pro Thr Phe Ser Met Asp Tyr Asp Lys Asp Ile Asp Lys Ser Leu		
180	185	190
Ile Gly Asp Glu Tyr Leu Pro Ala Trp Glu Lys Phe Gly Leu Leu Gly		
195	200	205
Leu Lys Cys Arg Asn Asp Glu Pro Thr Ile Arg Ala Tyr Ser Met Ala		
210	215	220
Asn Tyr Pro Ala Glu Gly Asp Arg Ile Met Leu Thr Val Arg Ile Ala		
225	230	235
Thr Pro Pro Phe Lys Pro Lys Asp Gln Gly Pro Gly Phe Met Asp Val		
245	250	255
Met Pro Gly Ile Ala Ser Ser Tyr Ile Phe Thr Leu Lys Pro Gly Asp		
260	265	270
Lys Val Thr Met Ser Gly Pro Tyr Gly Asp Phe His Pro Ile Leu Asp		
275	280	285
Ser Lys Asn Glu Met Met Trp Ile Gly Gly Ala Gly Met Ala Pro		
290	295	300
Leu Arg Ala Gln Ile Met His Leu Thr Lys Thr Leu His Ile Thr Asp		
305	310	315
Arg Thr Met Asn Tyr Phe Tyr Gly Ala Arg Ala Leu Asn Glu Val Phe		
325	330	335
Tyr Leu Glu Asp Phe Leu Gln Ile Glu Lys Asp Phe Pro Asn Phe Lys		
340	345	350
Phe His Leu Ala Leu Asp Arg Pro Asp Pro Ala Ala Asp Ala Ala Gly		
355	360	365
Val Lys Tyr Thr Ala Gly Phe Val His Asn Val Ile Tyr Glu Thr Tyr		
370	375	380
Leu Lys Asn His Glu Ala Pro Glu Asp Ile Glu Tyr Tyr Met Cys Gly		
385	390	395
Pro Gly Pro Met Ser Lys Ala Val Glu Lys Met Leu Asp Asp Leu Gly		
405	410	415
Val Pro Ser Lys Asn Leu Met Phe Asp Asn Phe Gly Gly		
420	425	

&lt;210&gt; 7407

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7407

Lys Lys Ile Asp Arg Met Ala Phe Glu Ala Thr Lys Arg Glu Trp Ser		
1	5	10
Glu Leu Tyr Val Phe Phe Arg Leu Leu Ala Asp Gly Lys Val Ser Leu		
20	25	30
Gly Thr Pro Gln Ala Lys Lys Glu Asp Glu Lys Tyr Arg Pro Ile Ala		

35	40	45
Met Ile Gln Arg Glu Glu His Asp Gly Thr Arg Arg Tyr Tyr Ile Glu		
50	55	60
Glu Glu Val Ile Arg Met Glu Gly Glu Lys Val Glu Lys Ser Ile Pro		
65	70	75
Arg Glu Asp Phe Ala Thr Val Ala Asp Leu Ile Leu Asp Ala Ile Lys		
85	90	95
Asn Ser Ser Ala Asp Glu Val Thr Ser Pro Asp Gly Val Glu Glu Phe		
100	105	110
Leu Asp Glu Ala Gly Ile Phe Asp Leu Glu Ala Arg Thr Glu Asp Arg		
115	120	125
Thr Asp Phe Ser Ile Ala Phe Trp His Pro Glu Ala Pro Leu Ala Gly		
130	135	140
Cys Leu Arg His Gly Pro Gly Glu		
145	150	

&lt;210&gt; 7408

&lt;211&gt; 471

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7408

Ser Phe Gly Asp His His Lys Arg Asn Cys Phe Arg Val Val Arg Lys		
1	5	10
Gln Phe Phe Phe Ile Phe Val Ser Leu Phe Lys Asn Val Glu Lys Thr		
20	25	30
Met Asn Gly Leu Lys Asp Ile Leu Glu Arg Leu Lys Ile Glu Gln Leu		
35	40	45
Asn Pro Met Gln Glu Ala Ser Val Glu Ala Phe Asp Lys Gly Gly Glu		
50	55	60
Asp Leu Ile Leu Leu Ser Pro Thr Gly Ser Gly Lys Thr Leu Ala Phe		
65	70	75
Leu Leu Pro Leu Val Gly Ser Leu Lys Ala Asp Val Lys Gly Val Gln		
85	90	95
Ala Val Val Leu Val Pro Ser Arg Glu Leu Ala Leu Gln Ile Glu Gln		
100	105	110
Val Phe Lys Ala Met Gly Thr Glu Phe Lys Ala Met Ser Cys Tyr Gly		
115	120	125
Gly Arg Pro Ala Met Glu Glu His Arg Thr Met Lys Gly Met Gln Pro		
130	135	140
Ala Val Ile Ile Gly Thr Pro Gly Arg Met Asn Asp His Leu Ser Lys		
145	150	155
Gln Asn Phe Asp Ala Ser Thr Val Ser Leu Leu Val Ile Asp Glu Phe		
165	170	175
Asp Lys Cys Leu Glu Phe Gly Phe Gln Glu Glu Met Ala Thr Val Ile		
180	185	190
Gly Gln Leu Pro Asp Leu Lys Arg Arg Phe Leu Thr Ser Ala Thr Asp		
195	200	205
Ala Glu Glu Ile Pro Gln Phe Thr Gly Leu Asn Arg Thr Ile Lys Leu		
210	215	220
Asp Phe Leu Thr Asn Asp Val Glu Glu Ser Arg Leu Arg Leu Met Lys		
225	230	235
Val Val Ser Pro Ala Lys Asp Lys Ile Glu Thr Leu Tyr Lys Leu Leu		
245	250	255
Cys Thr Leu Gly Ser Ser Ser Ile Val Phe Cys Asn His Arg Asp		
260	265	270
Ala Val Asp Arg Val Ser Ala Leu Leu Thr Glu Lys Gly Val Ser Asn		
275	280	285
Glu Arg Phe His Gly Gly Met Glu Gln Pro Asp Arg Glu Arg Ala Leu		

290	295	300
Tyr	Lys Phe Arg Asn Gly Ser Cys Pro Val Leu Val Ser Thr Asp Leu	
305	310	315
Ala Ala Arg Gly Leu Asp Ile Pro Glu Val Glu His Ile Ile His Tyr		320
325	330	335
His Leu Pro Val Asn Glu Glu Ala Phe Thr His Arg Asn Gly Arg Thr		
340	345	350
Ala Arg Trp Asp Ala Thr Gly Thr Ser Tyr Leu Ile Leu Asn Pro Glu		
355	360	365
Glu His Val Pro Asp Tyr Ile Pro Ser Glu Leu Glu Ile Phe Asp Leu		
370	375	380
Pro Glu Asn Thr Pro Arg Pro Ala Lys Pro Gln Trp Val Thr Ile Tyr		
385	390	395
Ile Gly Lys Gly Lys Lys Asp Lys Leu Ser Lys Ile Asp Ile Ala Gly		400
405	410	415
Phe Leu Tyr Lys Gly Asn Leu Ala Arg Glu Asp Val Gly Ala Ile		
420	425	430
Asp Val Lys Asp His Tyr Ala Phe Val Ala Val Arg Arg Pro Lys Met		
435	440	445
Lys Gln Leu Leu Thr Leu Ile Arg Gly Glu Lys Ile Lys Gly Met Lys		
450	455	460
Thr Val Ile Glu Glu Ala Asp		
465	470	

&lt;210&gt; 7409

&lt;211&gt; 183

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7409

Tyr	Gly Leu Trp His Thr Tyr Gln Trp Pro Asp Ser Gly Phe Phe Asn	
1	5	10
Phe	Asp Phe Arg Gly Thr Ile Thr Gly Tyr Ser Leu Asn His Gln Lys	
20	25	30
Lys	Ile Pro Asp Ile Met Thr Glu Asp Thr Tyr Lys Thr Ile Thr Glu	
35	40	45
Val	Ser Glu Gly Thr Tyr Thr Glu Lys Arg Ser Lys Phe Ile Ala Ile	
50	55	60
Ala	Leu Pro Val Arg Thr Leu Glu Glu Ile Lys Val His Leu Glu Ala	
65	70	75
Tyr	Gln Lys Lys Tyr Tyr Asp Ala Arg His Val Cys Tyr Ala Tyr Met	
85	90	95
Leu	Gly His Glu Arg Lys Asn Phe Arg Ala Asn Asp Asn Gly Glu Pro	
100	105	110
Ser	Gly Thr Ala Gly Lys Pro Ile Leu Gly Gln Ile Asn Ser Thr Glu	
115	120	125
Leu	Thr Asp Ile Leu Ile Met Trp Val Arg Tyr Ser Lys Gly Ile Lys	
130	135	140
Leu	Gly Thr Ser Gly Leu Ile Val Ala Tyr Arg Ala Ala Ala Arg Gly	
145	150	155
Pro	Ser Leu His Ala Pro Trp Glu Arg Lys Leu Trp Thr Arg Lys Tyr	
165	170	175
Pro	Tyr Phe Ser Ser Ile Leu	
180		

&lt;210&gt; 7410

&lt;211&gt; 214

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 7410  
 Glu Ser Lys Arg Lys Ile Met Glu Gln Leu Leu Ser Leu Phe Val Arg  
 1 5 10 15  
 Ser Ile Phe Val Asp Asn Met Ile Phe Ala Phe Phe Leu Gly Met Cys  
 20 25 30  
 Ser Tyr Leu Ala Val Ser Lys Asn Val Lys Thr Ala Val Gly Leu Gly  
 35 40 45  
 Ile Ala Val Thr Phe Val Leu Val Val Thr Leu Pro Val Asn Tyr Leu  
 50 55 60  
 Leu Gln Thr Lys Val Leu Ala Ala Asn Ala Ile Ile Glu Gly Val Asp  
 65 70 75 80  
 Leu Ser Phe Leu Ser Phe Ile Leu Phe Ile Gly Arg Met Ala Gly Phe  
 85 90 95  
 Gly Gln Leu Val Glu Met Val Val Glu Arg Phe Ser Pro Ser Leu Tyr  
 100 105 110  
 Ala Ser Leu Gly Ile Phe Leu Pro Leu Ile Ala Val Asn Cys Ala Ile  
 115 120 125  
 Met Gly Ala Ser Leu Phe Met Gln Gln Arg Ile Thr Met Asp Pro Ser  
 130 135 140  
 Asn Pro Gln Ala Ile Thr Gly Val Gly Ser Ala Val Val Tyr Ala Leu  
 145 150 155 160  
 Gly Ser Gly Ile Gly Trp Leu Leu Ala Ile Val Gly Leu Ala Ala Ile  
 165 170 175  
 Arg Glu Lys Met Ala Tyr Ser Asp Val Pro Ala Pro Leu Lys Gly Leu  
 180 185 190  
 Gly Ile Thr Phe Ile Thr Val Gly Leu Met Ala Met Ala Phe Met Cys  
 195 200 205  
 Phe Ser Gly Leu Lys Leu  
 210

&lt;210&gt; 7411

<211> 84  
 <212> PRT  
 <213> B.fragilis

<400> 7411  
 Lys Leu Arg Gly Pro Phe Gln Pro Arg Gly Glu Asp Gly Ala Glu Ile  
 1 5 10 15  
 Ala Gly Ala Ala Phe Gln Asn Glu Phe Ser Gly Lys Lys Val Leu Lys  
 20 25 30  
 Asp Gly Gln Val Ala Leu Ala Val Glu Lys Asn Gly Lys Val Thr Asp  
 35 40 45  
 Pro Ala Tyr Gln Val Asp Gly Ile Ser Gly Gly Thr Ile Thr Ser Lys  
 50 55 60  
 Gly Val Asp Ala Met Ile Lys Ala Cys Leu Ser Gln Tyr Asp Lys Phe  
 65 70 75 80  
 Leu Thr Asn Asn

<210> 7412  
 <211> 365  
 <212> PRT  
 <213> B.fragilis

<400> 7412  
 Arg Asn Cys Ile Thr Lys Asn Thr His Gln Met Lys Lys His Asn Phe  
 1 5 10 15  
 Ser Ala Gly Pro Ser Ile Leu Pro Arg Glu Val Ile Glu Glu Thr Ala

20	25	30
Lys Ala Ile Leu Asp Phe Asn Gly Ser Gly	Leu Ser Val	Leu Glu Val
35	40	45
Ser His Arg Gly Lys Asp Phe Gln Ala Val	Met Asp Glu Ala Val Ala	
50	55	60
Leu Phe Lys Glu Ile Leu Asn Ile Pro Glu	Gly Tyr Ser Val Leu Phe	
65	70	75
Leu Gly Gly Ala Ser Met Gln Phe Cys	Met Val Pro Tyr Asn Phe	
85	90	95
Leu Glu Lys Ala Ala Tyr Leu Asn Thr Gly	Val Trp Ala Lys Lys	
100	105	110
Ala Met Lys Glu Ala Lys Gly Phe Gly	Glu Val Val Glu Val Ala Ser	
115	120	125
Ser Ala Asp Ala Asn Tyr Thr Phe Ile Pro	Lys Asp Phe Thr Ile Pro	
130	135	140
Ala Asp Ala Asp Tyr Phe His Val Thr	Thr Asn Asn Thr Ile Tyr Gly	
145	150	155
Thr Glu Leu Lys Gly Asp Leu Asp Ser	Pro Val Pro Met Val Ala Asp	
165	170	175
Met Ser Ser Asp Ile Phe Ser Arg Pro	Val Asp Val Ser Lys Tyr Ile	
180	185	190
Cys Ile Tyr Gly Gly Ala Gln Lys Asn	Leu Ala Pro Ser Gly Val Thr	
195	200	205
Phe Val Ile Val Lys Asp Asp Ala Val	Gly Lys Val Ser Arg Tyr Ile	
210	215	220
Pro Ser Met Leu Asn Tyr Lys Thr His	Ile Asp Gly Gly Ser Met Phe	
225	230	235
Asn Thr Pro Pro Val Leu Pro Ile Tyr	Ser Ala Met Gln Thr Leu Arg	
245	250	255
Trp Ile Lys Ala Gln Gly Val Lys	Glu Met Asp Arg Arg Ala Thr	
260	265	270
Glu Lys Ala Asp Met Leu Tyr Ala Glu	Ile Asp Arg Asn Lys Met Phe	
275	280	285
Val Gly Thr Ala Ala Lys Glu Asp Arg	Ser Arg Met Asn Ile Cys Phe	
290	295	300
Val Met Ala Pro Glu Tyr Lys Asp Leu	Glu Ala Asp Phe Leu Lys Phe	
305	310	315
Ala Thr Asp Lys Gly Met Ser Gly Ile	Lys Gly His Arg Ser Val Gly	
325	330	335
Gly Phe Arg Ala Ser Cys Tyr Asn Ala	Met Pro Lys Glu Ser Val Gln	
340	345	350
Ala Leu Ile Asp Cys Met Gln Glu Phe	Glu Lys Leu His	
355	360	365

&lt;210&gt; 7413

&lt;211&gt; 327

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7413

Met Thr Ala Phe Gly Val Cys Gly	Ile Leu Cys Gly Glu Phe Ser Gln		
1	5	10	15
Asn Arg Ile Arg Glu Met Lys Ile	Leu Val Ala Thr Glu Lys Pro Phe		
20	25	30	
Ala Lys Ile Ala Val Asp Gly	Ile Lys Lys Glu Ile Glu Gly Ala Gly		
35	40	45	
Phe Glu Leu Ala Leu Leu Glu	Lys Tyr Thr Asp Lys Ala Gln Leu Leu		
50	55	60	
Asp Ala Val Lys Asp Ala Asn	Ala Ile Ile Arg Ser Asp Ile Ile		

65	70	75	80
Asp Ala Glu Val		Glu Leu Lys Ile Val Val Arg	
85		85 90	95
Ala Gly Ala Gly Tyr Asp Asn Val		Asp Leu Asn Ala Ala Thr Ala His	
100		100 105	110
Gly Val Cys Val Met Asn Thr Pro		Gly Gln Asn Ser Asn Ala Val Ala	
115		115 120	125
Glu Leu Val Phe Gly Leu		Leu Val Tyr Ala Val Arg Asn Phe Tyr Asn	
130		130 135	140
Gly Thr Ser Gly Thr Glu Leu		Met Gly Lys Lys Leu Gly Ile His Ala	
145		145 150	160
Tyr Gly Asn Val Gly Arg Asn Val Ala		Arg Ile Ala Lys Gly Phe Gly	
165		165 170	175
Met Glu Leu Tyr Ala Tyr Asp Ala		Phe Cys Pro Lys Asp Val Ile Glu	
180		180 185	190
Lys Asp Gly Val Lys Ala Val		Asp Ser Ala Glu Glu Leu Tyr Lys Thr	
195		195 200	205
Cys Asn Ile Val Ser Leu His		Ile Pro Ala Thr Ala Glu Thr Lys Asn	
210		210 215	220
Ser Ile Asn His Asp Leu		Leu Ala Asn Met Pro Lys Gly Ala Ile Leu	
225		225 230	240
Val Asn Thr Ala Arg Lys Glu Val		Ile Asn Glu Asp Glu Leu Ile Gln	
245		245 250	255
Leu Met Glu Glu Arg Pro Asp Phe		Lys Tyr Ile Thr Asp Ile Met Pro	
260		260 265	270
Ala Ala Asn Thr Lys Phe Ala		Glu Leu Phe Ala Gly Arg Tyr Phe Ser	
275		275 280	285
Thr Pro Lys Lys Met Gly Ala		Gln Thr Ala Glu Ala Asn Ile Asn Ala	
290		290 295	300
Gly Ile Ala Ala Ala Arg Gln		Ile Val Gly Phe Leu Lys Glu Gly Cys	
305		305 310	315 320
Glu Lys Phe Arg Val Asn Lys			
	325		

&lt;210&gt; 7414

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7414

1	Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe Asp	15
	5	10
Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe Met		
20	20 25	30
Ala Glu Asn Thr Val Phe Leu		Leu Thr Ala Leu Ile His Asn Phe
35	35 40	45
Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu Lys		
50	50 55	60
Lys Thr Ser Arg Ile Lys Ala Phe Val Phe Arg Phe Ile Ser Val Pro		
65	65 70	75 80
Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr Thr		
85	85 90	95
Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys Thr Glu Phe Gly		
100	100 105	110

&lt;210&gt; 7415

&lt;211&gt; 86

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7415

Ile	Val	Thr	Leu	Cys	Val	Leu	Thr	Phe	Lys	Leu	Leu	Tyr	Gln	Met	Asp
1					5				10					15	
Lys	Asn	Glu	Ile	Gly	Leu	Asn	Ala	Gly	Lys	Val	Trp	Gln	Leu	Leu	Ser
					20				25				30		
Asn	Asn	Asp	Lys	Trp	Ser	Tyr	Gly	Asn	Leu	Lys	Lys	Ser	Gly	Leu	
					35				40			45			
Lys	Asp	Lys	Asp	Leu	Gly	Ala	Ala	Leu	Gly	Trp	Leu	Ala	Arg	Glu	Asp
					50				55			60			
Lys	Ile	Glu	Phe	Glu	Gln	Glu	Glu	Glu	Leu	Tyr	Val	Tyr	Leu	Cys	
					65				70			75		80	
Val	Asn	Val	Tyr	Ile	Gly										
					85										

&lt;210&gt; 7416

<211> 61  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7416

Ile	Tyr	Glu	Pro	Phe	Ser	Pro	Gly	Lys	Leu	Ala	Asn	Glu	Trp	Asp
1						5			10				15	
Gly	Arg	Ser	Asp	Gly	Glu	Ile	Cys	Arg	Lys	Leu	Glu	Glu	Lys	Gly
						20			25				30	
Asp	Ile	Ala	Gly	His	Asn	Arg	Asn	Ala	Leu	Pro	Gly	Ser	Arg	Arg
						35			40			45		
Tyr	Pro	Asp	Thr	Phe	Leu	Ser	Val	Pro	Ser	Gln	Asn	Thr		
						50			55			60		

&lt;210&gt; 7417

<211> 271  
 <212> PRT  
 <213> B.fragilis

&lt;220&gt;

<221> UNSURE  
 <222> (271)

<223> Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7417

Tyr	Asp	Met	Ala	Lys	Ile	Gln	Ile	Lys	Ser	Glu	Lys	Leu	Thr	Pro	Phe
1							5			10			15		
Gly	Gly	Ile	Phe	Ser	Ile	Met	Glu	Lys	Phe	Asp	Ser	Met	Leu	Ser	Pro
							20			25			30		
Val	Ile	Asp	Ser	Thr	Leu	Gly	Gln	Arg	Cys	Ser	Ser	Ile	Phe	Gly	Tyr
							35			40			45		
Gln	Phe	Ser	Glu	Ile	Val	Arg	Ser	Leu	Met	Ser	Val	Tyr	Phe	Cys	Gly
							50			55			60		
Gly	Ser	Cys	Val	Glu	Asp	Val	Thr	Ser	Gln	Leu	Met	Arg	His	Leu	Ser
							65			70			75		80
Tyr	His	Pro	Thr	Leu	Arg	Thr	Cys	Ser	Ser	Asp	Thr	Ile	Leu	Arg	Ala
							85			90			95		
Ile	Lys	Glu	Leu	Thr	Gln	Glu	Asn	Ile	Ser	Tyr	Thr	Ser	Asp	Gln	Gly
							100			105			110		
Lys	Thr	Tyr	Asp	Phe	Asn	Thr	Ala	Asp	Lys	Leu	Asn	Thr	Leu	Leu	Ile
							115			120			125		
Asn	Ala	Leu	Val	Ser	Thr	Gly	Glu	Leu	Lys	Glu	Ile	Glu	Glu	Tyr	Asp
							130			135			140		

Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys  
 145 150 155 160  
 Pro Thr Tyr Lys Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile  
 165 170 175  
 Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val  
 180 185 190  
 Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu  
 195 200 205  
 Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys  
 210 215 220  
 Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr  
 225 230 235 240  
 Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu  
 245 250 255  
 Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Xaa  
 260 265 270

&lt;210&gt; 7418

&lt;211&gt; 175

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7418

Phe Tyr Phe Tyr Val Phe Ser Phe Gly Gly Thr Ser Val Val Asp Ala  
 1 5 10 15  
 Gln Thr Lys Gly Ile Val Val Asp Gly Val Lys Gly Arg Ser Leu Ser  
 20 25 30  
 Asp Val Asn Ile Tyr Leu Gln Lys Asp Ser Val Glu Ile Gly Ser Thr  
 35 40 45  
 Asp Arg Asn Gly Glu Phe Met Phe Ser Arg Asp Gln Ile Thr Ile Ser  
 50 55 60  
 Asp Thr Ile Val Phe Ser His Val Gly Tyr Phe Pro Leu Lys Cys Thr  
 65 70 75 80  
 Leu Ser Glu Leu Gln His Leu Gly Tyr Lys Val Val Leu His Glu His  
 85 90 95  
 Pro Gln Leu Leu His Glu Val Val Ser Gly Glu Arg Pro Pro Phe  
 100 105 110  
 Phe Leu Glu Trp Thr Ser Leu Ser Pro Leu Pro Lys Pro Leu Tyr Ser  
 115 120 125  
 Phe Gly Gly Phe Leu His Ala Gly Lys Ile Tyr Val Val Ala Gly Asp  
 130 135 140  
 Glu Thr Leu Val Arg Met Val Thr Asp Lys His Arg Arg Ser Thr Ser  
 145 150 155 160  
 Leu Leu Ser Phe Thr Met Thr Ala Cys Met Arg Trp Glu Glu Leu  
 165 170 175

&lt;210&gt; 7419

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7419

Ser Val Lys Tyr Ala Met Val Lys Val Ile Leu Phe Pro Ser Leu Leu  
 1 5 10 15  
 Phe Cys Phe Ile Ile Asp Ala His Ser Tyr Phe Asn Thr Ile Tyr Arg  
 20 25 30  
 Asn Gln Tyr Ile Asn Lys Arg Gly Asn Glu Lys Lys Thr Glu Arg Pro  
 35 40 45  
 Asn Thr Leu Asp Pro Leu Arg Ile Asn Leu Thr Tyr Val Asn Gly Asn

50	55	60
Tyr Ile Ser Met Arg Ser Tyr Ile Tyr Pro Leu Thr Val Thr Pro Thr		
65	70	75
His Tyr Val Lys Arg Ile Pro Pro Val Glu Lys Ser Cys Ile Phe His		80
85	90	95
Ile Gln Ser Ser Gln Phe Val Tyr Ala His Cys Ile Cys Phe Asn Met		
100	105	110
Val Asp Leu		
115		

&lt;210&gt; 7420

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7420

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe		
1	5	10
Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met		15
20	25	30
Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu		
35	40	45
Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu		
50	55	60
Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser		
65	70	75
Ser Ala Arg		80

&lt;210&gt; 7421

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7421

Ile Lys Leu Asn Tyr Ser Val Ala Glu Leu Arg Phe Ile Lys Thr Phe		
1	5	10
Pro Gly Tyr Tyr Tyr Leu Gln Tyr Thr Tyr Lys Glu Gln Val Leu Gly		15
20	25	30
Glu Ile Trp Ser Arg Lys Thr Asn Gln Ile Val Ser Arg Ser Ile Leu		
35	40	45
Thr Arg Pro Asn Gln Phe Thr Thr Leu Arg Gly Ile Arg Phe Arg Phe		
50	55	60
Pro Ser Gly Thr Val Ile Arg Leu Leu Pro Asp Tyr Ile Ser Gly Asn		
65	70	75
Lys Ile Ala Phe Phe Ile Pro Ala Asp Glu Ala Met Gly Glu Ile Pro		80
85	90	95
Gly Ile Lys Ile Arg Glu Asp Asp Asn Pro Ile Leu Met Val Met Glu		
100	105	110
Leu		

&lt;210&gt; 7422

&lt;211&gt; 161

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7422

Arg Lys Val Asp Arg Arg Asp Arg Arg Gly Ala Glu Thr Phe Ala Gly

1	5	10	15
Lys Cys Glu Gly Lys Val Ala Ser Tyr Pro Gln Lys Asp Leu Cys Ile			
20	25	30	
Asp Glu Arg Lys Gly Val Met Met Glu Thr Asn Lys Lys His Thr Glu			
35	40	45	
Asn Ala Leu Lys Gln Ala Leu Gln Arg Arg Gln Pro Gly Arg Leu Pro			
50	55	60	
Ser Asn Phe Asn Tyr Arg Met Met Glu Gln Ile Arg Leu Glu Ala Glu			
65	70	75	80
Lys Gln Gln Lys Arg Lys Glu Arg Val Met Leu Cys Gly Met Ile Ala			
85	90	95	
Gly Ile Leu Leu Leu Gly Val Gly Val Tyr Thr Leu Val Phe Lys			
100	105	110	
Leu Glu Phe Asn Phe Lys Glu Tyr Leu Ser Gly Met Asp Phe Ser His			
115	120	125	
Ala Asp Ser Ser Leu Leu Ala Phe Tyr Ser Tyr Ile Ala Thr Leu Val			
130	135	140	
Leu Leu Leu Gly Leu Asp Tyr Trp Leu Arg Lys Lys Lys Phe His			
145	150	155	160
Ser			

&lt;210&gt; 7423

&lt;211&gt; 198

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7423

1	5	10	15
Pro Arg Lys Gly Gly Asn Thr Glu Leu Leu Ile Lys Glu Val Phe Lys			
20	25	30	
Pro Ile Gln Glu Ala Gly Ile Glu Thr Glu Leu Val Gln Leu Gly Gly			
35	40	45	
Lys Leu Leu Arg Gly Cys Ala Ser Cys Tyr Thr Cys Phe Lys Thr Lys			
50	55	60	
Asp Gly Lys Cys Ala Ile Lys Thr Asp Pro Met Asn Glu Phe Ile Gln			
65	70	75	80
Lys Ala Gln Glu Ala Asp Gly Ile Ile Leu Ala Ser Pro Thr Tyr Tyr			
85	90	95	
Gly Ser Val Ser Ala Glu Met Lys Ala Phe Met Asp Arg Leu Gly Leu			
100	105	110	
Thr Thr Ile Gly Gln Gly Arg Thr Leu Thr Arg Lys Val Gly Ala Ala			
115	120	125	
Val Ile Ser Val Arg Arg Gly Gly Ala Val Thr Val Tyr Asp Glu Leu			
130	135	140	
Asn Arg Phe Met Leu Gly Ser Gly Met Ile Val Pro Gly Ser Thr Tyr			
145	150	155	160
Trp Asn Phe Gly Ile Gly Glu Met Pro Gly Glu Val Phe Asp Asp Ala			
165	170	175	
Glu Gly Leu Arg Asn Met Lys Asp Leu Gly Val Gln Leu Ala Trp Leu			
180	185	190	
Leu Lys Ala Ile His Asn			
195			

&lt;210&gt; 7424

&lt;211&gt; 339

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7424

His Thr Met Arg Ser Phe Ala Ser Asp Asn Asn Ser Gly Val His Pro  
 1           5           10           15  
 Ala Ile Met Glu Ala Leu Thr Arg Ala Asn Arg Asp His Ala Leu Gly  
 20           25           30  
 Tyr Gly Asp Asp Leu Trp Thr Glu Glu Ala Val Arg Lys Ile Lys Glu  
 35           40           45  
 Thr Phe Val Ala Asp Cys Glu Pro Leu Phe Val Phe Asn Gly Thr Gly  
 50           55           60  
 Ser Asn Val Ile Ala Leu Gln Leu Met Thr Arg Pro Tyr Asn Ser Ile  
 65           70           75           80  
 Leu Cys Ala Glu Thr Ala His Ile Tyr Val Asp Glu Cys Gly Ser Pro  
 85           90           95  
 Val Lys Met Thr Gly Cys Gln Ile Arg Pro Ile Ala Thr Pro Asp Gly  
 100          105          110  
 Lys Leu Thr Pro Gln Leu Ile Thr Pro Tyr Leu His Gly Phe Ala Asp  
 115          120          125  
 Gln His His Ser Gln Pro Gly Ala Ile Tyr Leu Ser Glu Cys Thr Glu  
 130          135          140  
 Leu Gly Thr Ile Tyr Thr Pro Asp Glu Leu Lys Ala Ile Thr Ser Leu  
 145          150          155          160  
 Ala His Gln Tyr Gly Met Trp Val His Met Asp Gly Ala Arg Ile Ala  
 165          170          175  
 Asn Ala Cys Ala Ser Leu Gly Leu Ser Leu Arg Ala Leu Thr Val Asp  
 180          185          190  
 Cys Gly Ile Asp Val Leu Ser Phe Gly Gly Thr Lys Asn Gly Leu Met  
 195          200          205  
 Met Gly Glu Cys Val Ile Val Phe Asp Asp Ser Leu Lys Ser Glu Ala  
 210          215          220  
 Arg Phe Ile Arg Lys Gln Ser Ala Gln Leu Ala Ser Lys Met Arg Tyr  
 225          230          235          240  
 Leu Ser Cys Gln Phe Thr Ala Tyr Leu Thr Asp Glu Leu Trp Leu Lys  
 245          250          255  
 Asn Ala Thr His Ala Asn Ala Met Ala Lys Arg Leu Ala Asp Ala Leu  
 260          265          270  
 Glu Gln Val Pro Gly Val Arg Phe Thr Gln Lys Val Glu Ser Asn Gln  
 275          280          285  
 Leu Phe Leu Thr Met Pro Arg Ala Glu Thr Asp Arg Met Leu Gln Thr  
 290          295          300  
 Tyr Phe Phe Tyr Phe Trp Asn Glu Glu Ala Asp Glu Ile Arg Leu Val  
 305          310          315          320  
 Thr Ser Phe Asp Thr Thr Glu Glu Asp Ile Asp Thr Phe Ile Arg Ile  
 325          330          335  
 Leu Lys Asn

&lt;210&gt; 7425

<211> 736  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7425

Thr Thr Phe Gly Pro Ser Ser Pro Val Val Lys Thr Ser Ser Tyr Ile  
 1           5           10           15  
 Thr Ala Gln Thr Val Ile Glu Asn Pro Pro Phe Glu Thr Arg Gln Gly  
 20           25           30  
 Ser Ile His Thr Ile Ser Lys Ile Glu Leu Ser Pro Thr Glu Thr Arg  
 35           40           45

Leu Thr Ile Arg Thr Val Phe Arg Pro Gln Trp Trp Thr Ser Leu Asp  
 50 55 60  
 Ser Leu Thr Tyr Ile Tyr Ala Pro Glu Ser Lys Lys Gln Leu Tyr Pro  
 65 70 75 80  
 Leu Arg Ile Glu Gly Arg Lys Phe Gly Glu Gln Val Thr Thr Pro Ala  
 85 90 95  
 Ser Gly Ile Ile Glu Asp Asp Cys Val Ile Thr Tyr Pro Pro Leu Pro  
 100 105 110  
 Glu Gly Thr Thr Arg Ile Asp Trp Met Asp Asp Asn Leu Asn Ser Glu  
 115 120 125  
 Thr Asn Thr Tyr Gly Ile Leu Leu Val Lys Pro Gln Glu Thr Lys Glu  
 130 135 140  
 Gln Ala Ser Leu Arg Lys Ile His Gly Asn Trp Gln Gln Ala Asp Ala  
 145 150 155 160  
 Gln Asn Gly Trp Asp Ile Gly Ile Tyr Asp Ser Leu Ala Ile Met Asp  
 165 170 175  
 Asn Arg Phe Trp Lys Tyr Asp Leu Cys Arg Lys Gln Gly Lys Lys Phe  
 180 185 190  
 Lys Leu Asn Leu Lys Asp Glu Thr Gly Glu Gln Cys Leu Leu Glu Ile  
 195 200 205  
 Thr Gln Glu Lys Asp Gly Asn Leu Cys Ile Gly Lys Asn Gly Gly Lys  
 210 215 220  
 Ala Asn Lys Tyr Ile Arg Ala Gly Arg Pro Gln Arg Asn Tyr Ala Ala  
 225 230 235 240  
 Thr Thr Ala Ala Thr Ala Pro Gln Thr Ala Phe Phe Arg Lys Asp Thr  
 245 250 255  
 Val His Ile Arg Gly Phe Leu Asp Gly Tyr Ser Pro Lys Leu Gly Phe  
 260 265 270  
 Thr Thr Val Leu Ile Tyr Thr Asp Asn His Ile Thr Asn Glu Gly Thr  
 275 280 285  
 Pro Ala Val Val Thr Ile His Pro Asp Gly Arg Phe Glu Ser Asp Phe  
 290 295 300  
 Val Val Asn Tyr Pro Gly Val His His Leu Ser Met Gly Asn Asn Trp  
 305 310 315 320  
 Met Thr Phe Tyr Ile Arg Pro Gly Glu Thr Leu Met Leu Tyr Ile Asn  
 325 330 335  
 Trp Glu Asp His Leu Asp Tyr Leu Arg Gln Arg Arg Leu Lys Pro Met  
 340 345 350  
 Leu Thr Glu Thr Leu Tyr Met Gly Pro Ser Ser Ser Ile Asn Gln Glu  
 355 360 365  
 Leu Met Pro Cys Glu Pro Leu Phe Ser Lys Asp Tyr His Ile Ile Gln  
 370 375 380  
 Asn Ala Cys Lys Thr Leu Thr Pro Ser Glu Phe Lys Thr Gln Gln Glu  
 385 390 395 400  
 Pro Met Tyr Lys Leu Trp Met His Arg Val Asp Ser Leu Glu Gln Ser  
 405 410 415  
 Lys Thr Leu Gln Pro Glu Ala Met Gln Met Leu Lys Asn Asp Val Met  
 420 425 430  
 Ile Asn Tyr Gly Ala Trp Leu Leu Glu Phe Ile Leu Met Arg Asp Met  
 435 440 445  
 Asp Ala Arg Lys Asp Thr Thr Asn Thr Ile Leu Lys Ile Lys Glu Thr  
 450 455 460  
 Pro Asp Tyr Tyr Asp Phe Leu Lys Ala Met Pro Leu Asn Asp Val Arg  
 465 470 475 480  
 Ser Ile Gly Cys Asn Asn Phe Ser Thr Phe Ile Asn Arg Ile Glu Phe  
 485 490 495  
 Met Asn Pro Phe Leu Pro Ala Ser Trp Gln Ile Lys Asn Gly Thr Asp  
 500 505 510  
 Asp Arg Met Glu Lys Tyr Ala Glu Ser Trp Arg Lys Lys Glu Ile

515	520	525
Leu Gln Asp Thr Thr Gly Met Pro Phe Pro Val Val	Gly Glu Leu Ile	
530	535	540
Leu Thr Arg Ser Tyr Pro Phe Leu Ala Lys Thr Leu	Glu Asn Glu Lys	
545	550	555
Lys Ala Phe Ala Leu Leu Asp Thr Leu Lys Gly Tyr	Leu His Asp Pro	
565	570	575
Phe Leu Val Ala Glu Ala Glu Arg Met Tyr Arg Gln	Val Tyr Pro Val	
580	585	590
Gln Gly Asn Lys Pro Gln Glu Leu Pro Ala Gly Lys	Gly Thr Asp Ile	
595	600	605
Ile Arg Lys Leu Thr Ala Pro Tyr Leu Gly Lys Phe	Val Ile Ile Asp	
610	615	620
Phe Trp Ala Thr Ser Cys Gly Pro Cys Arg Ala Ser	Ile Glu Gln His	
625	630	635
640		
Ala Asp Leu Arg Lys Asp Tyr Arg Asn Ser Pro Asp	Ile Lys Phe Ile	
645	650	655
Phe Val Thr Ser Asn Gln Asp Ser Pro Glu Lys Ala	Tyr Glu Asn Tyr	
660	665	670
Val Glu Lys His Leu Lys Glu Glu Thr Ile Phe Arg	Leu Pro Gln Ser	
675	680	685
Asp Tyr Asn Tyr Leu Arg Glu Leu Phe His Phe Asn	Gly Ile Pro Arg	
690	695	700
Tyr Val Leu Leu Asp Arg Asp Gly Lys Leu Leu Asp	Glu Asn Phe Pro	
705	710	715
720		
Met Tyr Asn Ile Glu Leu Phe Leu Lys Glu Ser Lys	Ile Arg Lys Glu	
725	730	735

&lt;210&gt; 7426

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7426

Pro Asp Ile Met Val Gln Asn Asp Glu Thr Gln	Tyr Ile Ala Arg Ile		
1	5	10	15
Leu Asp Gly Asp Thr Glu Cys Phe Ser Ala Phe	Leu Asp Arg Tyr Ser		
20	25	30	
Arg Pro Leu Tyr Val Leu Ile Val Gln Ile Val	Gly Cys Ser Glu Asp		
35	40	45	
Ala Glu Glu Leu Val Gln Asp Val Phe Leu Lys	Ala Phe Arg Cys Leu		
50	55	60	
Gly Ser Tyr Arg Gly Glu Cys Arg Phe Ser Thr	Trp Leu Tyr Arg Ile		
65	70	75	80
Ala Tyr Thr Ala Val Ser Ala Thr Arg Lys Lys	Gln Glu Phe		
85	90	95	
Leu Tyr Ile Glu Glu Asn Thr Ile Asn Asn Val	Pro Asp Glu Lys Ala		
100	105	110	
Asp Asp Ile Leu Tyr Pro Thr Asp Asp Glu Glu	Arg Thr Ala Arg Leu		
115	120	125	
Ile Gln Ala Ile Asp Leu Leu Asn Val Glu Glu	Lys Ala Leu Ile Thr		
130	135	140	
Leu Phe Tyr Tyr Glu Glu Lys Ser Ile Glu Glu	Ile Gly Glu Val Leu		
145	150	155	160
Lys Leu Ser Pro Gly Asn Val Lys Val Lys Leu	His Arg Thr Arg Lys		
165	170	175	
Lys Ile Tyr Val Leu Met Asn Gly Lys Glu			
180	185		

<210> 7427  
<211> 146  
<212> PRT  
<213> B.fragilis

<400> 7427

Lys	His	Thr	Ile	Met	Met	Asp	Phe	Ile	Thr	Ala	Pro	Leu	Ile	Val	Gly
1				5					10					15	
Ile	Ile	Thr	Leu	Gly	Ile	Tyr	Lys	Leu	Phe	Glu	Leu	Phe	Ala	Cys	Arg
					20				25				30		
Arg	Glu	Arg	Ile	Thr	Leu	Ile	Glu	Lys	Leu	Gly	Glu	Lys	Met	Ser	Gln
					35				40			45			
Thr	Asp	Leu	Glu	Leu	Asn	Gly	Lys	Ile	Cys	Leu	Pro	Asp	Phe	Asn	Arg
					50				55			60			
Pro	Gln	Leu	Ser	Phe	Gly	Ala	Leu	Lys	Gly	Gly	Cys	Leu	Leu	Leu	Gly
					65				70			75			80
Val	Gly	Leu	Gly	Leu	Leu	Val	Gly	Phe	Ile	Leu	Ser	Tyr	Val	Ser	Phe
					85				90			95			
Ser	Pro	Tyr	Asp	Leu	Asp	Arg	Leu	Asp	Arg	Gly	Tyr	Thr	Arg	Glu	Met
					100				105			110			
Val	Gly	Val	Ile	Tyr	Gly	Ser	Cys	Thr	Leu	Leu	Phe	Gly	Gly	Ala	Gly
					115				120			125			
Leu	Val	Ala	Ser	Phe	Leu	Ile	Glu	Gln	Asn	Phe	Ala	Ala	Lys	Lys	Lys
					130				135			140			
Glu	Lys				145										

<210> 7428  
<211> 601  
<212> PRT  
<213> B.fragilis

<400> 7428

Ile	Tyr	Asn	Phe	Leu	Ser	Gln	Leu	Pro	Val	Ile	Ala	Thr	Ser	Asn	His
1								5			10			15	
Leu	Asn	Leu	Thr	Ile	Asn	Met	Ala	Lys	Lys	Val	Ala	Glu	Gln	Leu	Val
								20			25			30	
Asp	Thr	Leu	Ile	Glu	Ala	Gly	Val	Arg	Arg	Ile	Tyr	Ala	Val	Thr	Gly
								35			40			45	
Asp	Ser	Leu	Asn	Glu	Val	Asn	Glu	Ala	Val	Arg	Gln	Asn	Glu	Val	Met
								50			55			60	
Lys	Trp	Ile	His	Val	Arg	His	Glu	Glu	Thr	Gly	Ala	Tyr	Ala	Ala	Gly
								65			70			75	
Ala	Glu	Ala	Gln	Leu	Thr	Gly	Leu	Pro	Gly	Cys	Cys	Ala	Gly	Ser	Ser
								85			90			95	
Gly	Pro	Gly	His	Val	His	Leu	Ile	Asn	Gly	Leu	Tyr	Asp	Ala	His	Arg
								100			105			110	
Ser	Gly	Ala	Pro	Val	Ile	Ala	Ile	Ala	Ser	Thr	Ile	Pro	Thr	Gly	Glu
								115			120			125	
Phe	Gly	Thr	Glu	Tyr	Phe	Gln	Glu	Thr	Asn	Thr	Val	Lys	Leu	Phe	Asn
								130			135			140	
Asp	Cys	Ser	Phe	Tyr	Asn	Glu	Val	Ala	Thr	Thr	Pro	Glu	Gln	Phe	Pro
								145			150			155	
Arg	Met	Leu	Gln	Ser	Ala	Leu	Gln	Thr	Ala	Thr	Thr	Arg	Lys	Gly	Val
								165			170			175	
Ala	Val	Val	Gly	Leu	Pro	Gly	Asp	Leu	Ala	Lys	Lys	Pro	Ala	Val	Lys
								180			185			190	
Val	Glu	Ser	Ser	Glu	Gln	Ile	Tyr	Pro	Leu	Ala	Ser	Ser	Val	Cys	Pro
								195			200			205	

Ala Glu Glu Asp Leu Ile Arg Leu Ala Gly Met Leu Asn His Tyr Glu  
 210 215 220  
 Arg Ile Thr Leu Phe Cys Gly Ile Gly Cys Lys Gly Ala His Glu Glu  
 225 230 235 240  
 Ile Ile Arg Met Ser Glu Thr Leu Asn Ala Pro Val Ala Tyr Thr Phe  
 245 250 255  
 Lys Gly Lys Met Glu Val Gln Tyr Asp Asn Pro Tyr Glu Val Gly Met  
 260 265 270  
 Thr Gly Leu Leu Gly Met Pro Ser Gly Tyr Tyr Ser Met His Glu Ala  
 275 280 285  
 Glu Val Leu Val Met Leu Gly Thr Asp Phe Pro Tyr Ser Ala Phe Leu  
 290 295 300  
 Pro Asp Asp Ile Lys Ile Val Gln Val Asp Ile Lys Pro Glu Arg Leu  
 305 310 315 320  
 Gly Arg Arg Ala Lys Val Asp Leu Gly Leu Cys Gly Asp Val Arg Ser  
 325 330 335  
 Thr Leu Arg Ala Leu Leu Pro Met Leu Gln Gln Lys Lys Asn Asp Ser  
 340 345 350  
 Phe Leu Arg Lys Gln Leu Lys Arg Tyr Glu Gly Val Lys Lys Asp Leu  
 355 360 365  
 Ala Ala Tyr Thr Glu Asp Lys Gly Lys Met Asp Gln Ile His Pro Glu  
 370 375 380  
 Tyr Val Met Ser Glu Ile Asn Asn Ile Ser Ser Asp Asp Ala Ile Tyr  
 385 390 395 400  
 Thr Val Asp Thr Gly Met Thr Cys Val Trp Gly Ala Arg Tyr Leu Gln  
 405 410 415  
 Ala Thr Gly Lys Arg His Met Leu Gly Ser Phe Asn His Gly Ser Met  
 420 425 430  
 Ala Asn Ala Leu Pro Gln Ala Ile Gly Ala Ala Leu Ala Cys Pro Asp  
 435 440 445  
 Arg Gln Val Ile Ala Leu Cys Gly Asp Gly Gly Leu Ser Met Thr Leu  
 450 455 460  
 Gly Asp Leu Glu Thr Val Val Gln Tyr Lys Leu Pro Ile Lys Ile Ile  
 465 470 475 480  
 Val Phe Asn Asn Arg Ser Leu Gly Met Val Lys Leu Glu Met Glu Val  
 485 490 495  
 Asp Gly Leu Pro Asp Trp Gln Thr Asp Met Leu Asn Pro Asn Phe Ala  
 500 505 510  
 Gln Val Ala Glu Ala Met Gly Met Thr Gly Phe Asn Val Ser Asp Pro  
 515 520 525  
 Glu Glu Val Leu Asn Thr Leu Cys Asn Ala Phe Glu Leu Glu Gly Pro  
 530 535 540  
 Val Leu Ile Asn Val Met Thr Asp Pro Asn Ala Leu Ala Met Pro Pro  
 545 550 555 560  
 Lys Ile Glu Leu Gly Gln Met Val Gly Phe Ala Gln Ser Met Tyr Lys  
 565 570 575  
 Leu Leu Ile Asn Gly Arg Ser Gln Glu Val Ile Asp Thr Ile Asn Ser  
 580 585 590  
 Asn Phe Lys His Ile Arg Glu Val Phe  
 595 600

&lt;210&gt; 7429

&lt;211&gt; 89

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7429

Leu Cys Asp Leu Lys Asp Gly Val Ser Tyr Pro Gly Leu Ala Ser Asp			
1	5	10	15

Gly Ser Tyr Ile Tyr Ile Phe Glu Asn Arg Asn Leu Gln Val Tyr His  
   20               25               30  
 Ile Glu Thr Asp Thr Met Arg Ile Tyr Glu Leu Ala Ala Leu Asp Val  
   35               40               45  
 Glu Asn Ala Gly Leu Phe Tyr Trp Arg Asn Thr Leu Tyr Ile Val Gly  
   50               55               60  
 Gly Cys Asn Cys Gln Gly Ile Tyr Val Ala Pro His Arg Asp Val Ile  
   65               70               75               80  
 Ala Ile Asp Val Ser Gln Ile Asn Pro  
   85

&lt;210&gt; 7430

&lt;211&gt; 90

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7430

Thr Gln Ala Val Asp Phe Thr Ser Phe Ile Tyr Asp Asp Cys Leu Tyr  
 1               5               10               15  
 Ala Met Gly Gly Ala Ile Arg Glu Lys Ala Tyr Ser Asn Lys Lys His  
   20               25               30  
 Thr Leu Asp Leu Lys Arg Gly Val Trp Tyr Glu Leu Glu Gly Thr Leu  
   35               40               45  
 Pro Ala Gly Arg Cys Gly Arg Met Asn Gly Ile Leu Val Gly Asp Lys  
   50               55               60  
 Val Tyr Phe Trp Gly Gly Tyr His Thr Ala Pro Met Trp Thr Ala Ala  
   65               70               75               80  
 Ser Tyr Asp Leu Arg Thr Gly Glu Trp Arg  
   85               90

&lt;210&gt; 7431

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7431

Ser Ser Thr Ser Gly Val Thr Cys Cys Glu Ala Ser Leu His Ala Gln  
 1               5               10               15  
 Ser Gly Leu Gln Trp Leu Ser Thr Ile Asn Pro Ser Lys Phe Arg Ser  
   20               25               30  
 Ile Ala Cys Trp Gln Arg Gly Ala Thr Ser Ser Arg Phe Pro Pro Met  
   35               40               45  
 Trp Leu Gly Ser Gln Lys Ile Gly Ser Ser Gly Met Arg Arg Arg Asn  
   50               55               60  
 Ser Ile Gly Met Cys His  
   65               70

&lt;210&gt; 7432

&lt;211&gt; 431

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7432

Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe  
 1               5               10               15  
 Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro  
   20               25               30  
 Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr  
   35               40               45

Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly  
 50 55 60  
 Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser  
 65 70 75 80  
 Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala  
 85 90 95  
 Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly  
 100 105 110  
 Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile  
 115 120 125  
 Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp  
 130 135 140  
 Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys  
 145 150 155 160  
 Pro Thr Tyr Lys Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile  
 165 170 175  
 Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val  
 180 185 190  
 Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu  
 195 200 205  
 Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys  
 210 215 220  
 Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr  
 225 230 235 240  
 Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu  
 245 250 255  
 Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Leu Asn  
 260 265 270  
 Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys Tyr Arg Leu Val Ile  
 275 280 285  
 Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp Leu Trp Glu Gly Glu  
 290 295 300  
 Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr Lys Ser Ser Thr Arg  
 305 310 315 320  
 Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe  
 325 330 335  
 Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe  
 340 345 350  
 Met Ala Glu Asn Thr Val Phe Leu Leu Leu Thr Ala Leu Ile His Asn  
 355 360 365  
 Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu  
 370 375 380  
 Lys Lys Thr Ser Arg Ile Lys Ala Phe Val Phe Arg Phe Ile Ser Val  
 385 390 395 400  
 Pro Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr  
 405 410 415  
 Thr Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys Thr Glu Phe Gly  
 420 425 430

&lt;210&gt; 7433

&lt;211&gt; 262

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7433

Gln Ile Ile His Ile Met Arg Ile Leu Ile Leu Gly Ala Gly Lys Met

1 5 10 15

Gly Ser Phe Phe Thr Asp Ile Leu Ser Phe Gln His Glu Thr Ala Val

20 25 30

Phe Asp Val Asn Pro His Gln Leu Arg Phe Val Tyr Asn Thr Tyr Arg  
     35                        40                        45  
 Phe Thr Thr Leu Glu Glu Ile Lys Glu Phe Glu Pro Glu Leu Val Ile  
     50                        55                        60  
 Asn Ala Ala Thr Val Lys Tyr Thr Leu Asp Ala Phe Arg Lys Ile Leu  
     65                        70                        75                        80  
 Pro Val Leu Pro Lys Asp Cys Ile Leu Ser Asp Ile Ala Ser Val Lys  
     85                        90                        95  
 Thr Gly Leu Lys Lys Phe Tyr Glu Glu Ser Gly Phe Arg Tyr Val Ser  
     100                       105                       110  
 Thr His Pro Met Phe Gly Pro Thr Phe Ala Ser Leu Ser Asn Leu Ser  
     115                       120                       125  
 Ser Glu Ser Ala Ile Ile Ile Ser Glu Ser Asp His Leu Gly Lys Val  
     130                       135                       140  
 Phe Phe Lys Asp Leu Tyr Asn Ser Leu Asn Leu Asn Ile Phe Glu Tyr  
     145                       150                       155                       160  
 Thr Phe Asp Glu His Asp Glu Thr Val Ala Tyr Ser Leu Ser Ile Pro  
     165                       170                       175  
 Phe Val Ser Thr Phe Val Phe Ala Ala Val Met Lys His Gln Glu Ala  
     180                       185                       190  
 Pro Gly Thr Thr Phe Lys Lys His Met Ala Ile Ala Lys Gly Leu Leu  
     195                       200                       205  
 Ser Glu Asp Asp Tyr Leu Leu Gln Glu Ile Leu Phe Asn Pro Arg Thr  
     210                       215                       220  
 Pro Ser Gln Val Glu Asn Ile Arg Thr Glu Leu Lys Gln Leu Leu Glu  
     225                       230                       235                       240  
 Ile Ile Thr Asn Lys Asp Ala Glu Gly Met Lys Lys Tyr Leu Thr Lys  
     245                       250                       255  
 Ile Arg Glu Lys Ile Lys  
     260

&lt;210&gt; 7434

&lt;211&gt; 396

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7434

Ala Asn Met Gln Lys Glu Asn Gln Thr Tyr Lys Val Ala Pro Ala Asp  
     1                        5                        10                        15  
 Arg Leu Ala Gly Val Ser Glu Tyr Tyr Phe Ser Lys Lys Leu Lys Glu  
     20                       25                       30  
 Val Ala Arg Met Asn Ala Glu Gly Lys Asp Val Ile Ser Leu Gly Ile  
     35                       40                       45  
 Gly Ser Pro Asp Met Pro Pro Ser Glu Gln Thr Ile Glu Thr Leu Cys  
     50                       55                       60  
 Asn Asn Ala His Asp Pro Asn Gly His Gly Tyr Gln Pro Tyr Val Gly  
     65                       70                       75                       80  
 Ile Pro Glu Leu Arg Lys Gly Phe Ala Asp Trp Tyr Lys Arg Trp Tyr  
     85                       90                       95  
 Gly Val Glu Leu Asn Pro Ala Thr Glu Ile Gln Pro Leu Ile Gly Ser  
     100                      105                       110  
 Lys Glu Gly Ile Leu His Val Thr Leu Ala Phe Val Asn Pro Gly Glu  
     115                      120                       125  
 Gln Val Leu Val Pro Asn Pro Gly Tyr Pro Thr Tyr Thr Ser Leu Ser  
     130                      135                       140  
 Lys Ile Leu Gly Ala Glu Val Val Asn Tyr Asn Leu Lys Glu Glu Asp  
     145                      150                       155                       160  
 Gly Trp Met Pro Asp Phe Asp Glu Leu Glu Lys Met Asp Leu Ser Arg  
     165                      170                       175

Val Lys Leu Met Trp Thr Asn Tyr Pro Asn Met Pro Thr Gly Ala Asn  
     180                         185                         190  
 Ala Thr Pro Glu Leu Tyr Lys Arg Leu Val Glu Phe Ala Arg Arg Lys  
     195                         200                         205  
 Asn Ile Val Ile Val Asn Asp Asn Pro Tyr Ser Phe Ile Leu Asn Asp  
     210                         215                         220  
 Lys Pro Ile Ser Ile Leu Ser Val Pro Gly Ala Lys Glu Cys Cys Ile  
     225                         230                         235                         240  
 Glu Phe Asn Ser Met Ser Lys Ser His Asn Met Pro Gly Trp Arg Ile  
     245                         250                         255  
 Gly Met Leu Ala Ser Asn Ala Glu Phe Val Gln Trp Ile Leu Lys Val  
     260                         265                         270  
 Lys Ser Asn Ile Asp Ser Gly Met Phe Arg Ala Met Gln Leu Ala Ala  
     275                         280                         285  
 Ala Lys Ala Leu Glu Ala Asp Ser Thr Trp Tyr Glu Gly Asn Asn Val  
     290                         295                         300  
 Asn Tyr Arg Asn Arg Arg His Leu Ala Gly Glu Ile Met Lys Thr Leu  
     305                         310                         315                         320  
 Gly Cys Thr Tyr Asp Glu Lys Gln Val Gly Met Phe Leu Trp Gly Lys  
     325                         330                         335  
 Ile Pro Ala Ser Cys Ala Asp Val Glu Glu Leu Thr Glu Lys Val Leu  
     340                         345                         350  
 Gln Glu Ala Arg Val Phe Ile Thr Pro Gly Phe Ile Phe Gly Ser Asn  
     355                         360                         365  
 Gly Ala Arg Tyr Ile Arg Ile Ser Leu Cys Cys Lys Asp Ala Lys Leu  
     370                         375                         380  
 Ala Glu Ala Leu Glu Arg Ile Lys Leu Ile Met Lys  
     385                         390                         395

&lt;210&gt; 7435

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7435

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe  
 1                         5                                 10                         15  
 Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met  
     20                         25                             30  
 Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu  
     35                         40                             45  
 Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu  
     50                         55                             60  
 Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser  
     65                         70                             75                         80  
 Ser Ala Arg

&lt;210&gt; 7436

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7436

Leu Asn Asn Lys Met Lys His Tyr Gln Arg Leu Glu Gly Met Val Ala  
 1                         5                                 10                         15  
 Ala Thr Phe Thr Pro Met Asp Ala Arg Gly Asp Ile Asn Leu Ser Val  
     20                         25                             30  
 Ile Asp Lys Tyr Ala Asp Leu Met Ala Glu Ser Gly Met Ala Gly Val

35	40	45
Phe Val Cys Gly Thr Thr Gly Glu Ser His Ser Leu Thr Thr Gly Glu		
50	55	60
Arg Lys Ala Ile Leu Ala Gln Trp Ile Lys Ser Ala Arg Lys Arg Phe		
65	70	75
Lys Val Ile Ala His Val Gly Ser Asn Cys Gln Leu Glu Ala Met Glu		
85	90	95
Leu Ala Arg His Ala Gln Glu Val Glu Ala Asp Ala Phe Ala Ala Met		
100	105	110
Ala Pro Cys Phe Phe Lys Pro Ser Ser Val Lys Asp Leu Val Asp Phe		
115	120	125
Phe Thr Pro Ile Ala Gln Ser Ala Pro Asp Leu Pro Phe Tyr Tyr Tyr		
130	135	140
Asn Met Pro Ser Met Thr Gly Val Ser Leu Ser Val Pro Ser Phe Leu		
145	150	155
Ile Glu Gly Lys Lys Thr Met Pro Asn Leu Val Gly Thr Lys Phe Thr		
165	170	175
His Asn Asn Leu Met Glu Met Gly Glu Cys Leu Glu Leu Asn Asn Gly		
180	185	190
Glu Phe Glu Val Leu His Gly Tyr Asp Glu Ile Leu Ile Ala Gly Leu		
195	200	205
Ala Leu Gly Ala Val Ala Gly Val Gly Ser Thr Tyr Asn Tyr Leu Pro		
210	215	220
Ala Val Tyr Gln Asn Leu Phe Asp Ala Phe Lys Lys Gly Asp Ile Cys		
225	230	235
Thr Ala Arg Arg Met Gln Gln Lys Ser Ile Glu Ile Val Lys Ile Ile		
245	250	255
Ile Lys Tyr Gly Gly Val Arg Gly Gly Lys Ala Ile Met Asn Leu		
260	265	270
Ile Gly Val Asp Cys Gly Arg Cys Arg Leu Pro Val Thr Pro Phe Gly		
275	280	285
Asp Asp Glu Tyr Ser Ser Leu Lys Arg Asp Leu Glu Lys Ile Gly Phe		
290	295	300
Leu Asn		
305		

&lt;210&gt; 7437

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7437

1	5	10	15
Met Lys Lys Leu Gly Leu Leu Leu Phe Leu Phe Val Cys Ala Ala Val			
20	25	30	
Val Arg Ala Gln Ser Asn Ile Val Lys Ser Leu Glu Arg Asn Val Pro			
35	40	45	
Gly Gln Gly Lys Val Thr Ile His Gln Asp Ser Arg Ile Glu Ala Leu			
50	55	60	
Leu Gly Thr Ala Arg Thr Gly Glu Gln Thr Val Ile Lys Ser			
65	70	75	80
Ser Gly Tyr Arg Val Gln Ala Tyr Ala Gly Asn Asn Thr Arg Gln Ala			
85	90	95	
Lys Asn Glu Ala His Gln Val Gly Thr Arg Val Lys Glu Tyr Phe Pro			
100	105	110	
Glu Leu Ser Val Tyr Thr Ser Phe Asn Pro Pro Arg Trp Leu Cys Arg			
115	120	125	
Val Gly Asp Phe Arg Ser Ile Glu Glu Ala Asp Ala Met Met Arg Lys			

130	135	140
Leu Lys Ala Thr Gly Val Phe Lys Glu Val Ser Ile Val Lys Asp Gln		
145	150	155
Ile Asn Ile Pro Leu		160
165		

&lt;210&gt; 7438

&lt;211&gt; 1102

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7438

Lys His Thr Lys Met Arg Lys Ile Thr Arg Ile Lys Cys Leu Ile Val			
1	5	10	15
Val Leu Leu Thr Phe Ile Gly Thr Leu Ala Pro Val His Ala Gln Gln			
20	25	30	
Ser Gly Asn Phe Glu Ile Ser Gly Val Val Lys Asp Thr Ser Gly Glu			
35	40	45	
Pro Val Ile Gly Ala Thr Val Ile Val Lys Asn Thr Gln Ile Gly Thr			
50	55	60	
Thr Thr Asp Val Asp Gly Lys Phe Lys Leu Lys Val Pro His Lys Ser			
65	70	75	80
Leu Leu Gln Ile Ser Phe Ile Gly Met Lys Thr Lys Asp Leu Lys Val			
85	90	95	
Thr Asn Asn Thr Phe Tyr Glu Ile Thr Leu Glu Asp Glu Ser Val Leu			
100	105	110	
Leu Asp Glu Val Val Ala Ile Gly Tyr Gly Thr Gln Ser Lys Ala Thr			
115	120	125	
Val Thr Ser Gly Val Val Ser Val Lys Lys Ala Glu Leu Met Ser Ser			
130	135	140	
Val Ser Ala Ser Pro Leu Asn Asn Leu Gln Gly Lys Val Ala Gly Leu			
145	150	155	160
Asp Ile Arg Gln Thr Thr Gly Gln Pro Gly Ala Gln Pro Val Val Leu			
165	170	175	
Ile Arg Gly Gly Ser Thr Asp Pro Ala Asn Asp Ser Pro Leu Phe Val			
180	185	190	
Ile Asp Gly Val Val Arg Ser Asn Met Asn Gly Leu Asn Gln Glu Asp			
195	200	205	
Ile Glu Ser Met Glu Val Leu Lys Asp Ala Ala Ser Ala Ala Ile Tyr			
210	215	220	
Gly Ala Lys Ala Ala Asn Gly Ile Ile Leu Ile Thr Thr Lys Gln Gly			
225	230	235	240
Ser Ser Lys Asp Gly Lys Ala Thr Ile Ser Ala Ser Tyr Arg Leu Gly			
245	250	255	
Val Glu Gln Ile Arg Gln His Tyr Pro Phe Ser Gly Ala Arg Asp Tyr			
260	265	270	
Leu Tyr Ala Ser Arg Leu Ala Gly Ser Arg Gly Ile Asn Asp Ala Asn			
275	280	285	
Val Ser Gly Arg Leu Glu Gly Gly Ala Tyr Pro Tyr Ser Thr Gly Asn			
290	295	300	
Ile Asn Tyr Lys Asn Gly Ala Leu Glu Gly Tyr Gly Tyr Ser Arg Phe			
305	310	315	320
Thr Thr Glu Tyr Leu Asp Asp Leu Ile Ser Asn Met Gly Gln Ser Tyr			
325	330	335	
Val Asp Asp Leu Leu Asn Arg Gln Gly Tyr Glu Thr Met Thr Asp Pro			
340	345	350	
Tyr Ser Gly Lys Gln Leu Ile Phe Lys Asp Asn His Tyr Gln Lys Asp			
355	360	365	
Val Leu Phe Gln Thr Ala Leu Thr His Asn Tyr Asp Leu Ser Ala Ser			

370	375	380			
Gly	Gly	Asn Asp Lys	Gly	Asn Tyr Tyr	Val Ser Leu Gly Tyr Ile Asn
385	390	395	400		
Ser	Glu	Gly Ile Val	Leu Gly Thr	Gly Tyr Asp Arg	Phe Ser Leu Thr
405	410	415			
Ala	Asn	Gly Asn Tyr Asn	Leu Arg Ser Asn	Leu Lys Leu Thr	Val Gly
420	425	430			
Leu	Lys	His Ser Thr Ile Ser	Asn Lys Ala Thr	Asp Pro Glu Asn Ser	
435	440	445			
Gly	Thr	Ser Thr Met Asp Arg	Ser Ser Arg	Tyr Pro Thr Thr Phe Arg	
450	455	460			
Leu	Tyr	Tyr Asp Asp Gly	Thr Pro Gly Ile	Gly Glu Ala Gly Gly	Ser
465	470	475	480		
Pro	Arg	Asn Arg Leu His	Glu Leu Tyr	Tyr Gln Asp Ile Ser Asp	Lys
485	490	495			
Val	Tyr	Arg Asn Thr Ile Gln	Leu Gly Leu Asp Trp	Glu Ile Leu Lys	
500	505	510			
Gly	Leu	His Phe Lys Pro Ser	Ala Ser Tyr	Tyr Met Gln Glu Asn Ile	
515	520	525			
Tyr	Arg	Phe Glu Lys Tyr	Asn Glu Phe Asn	Lys Gly Arg Lys Thr	
530	535	540			
Leu	Glu	Lys His Asp Gln	Tyr Lys Gln	Ile Met Ala Asp Ala Val	Phe
545	550	555	560		
Thr	Tyr	Asp Lys Val Phe	Ser Asp Lys His	Thr Leu Asn Ala Met	Ile
565	570	575			
Gly	Met	Asn Tyr Thr Gln Asp	Asp Thr Tyr	Lys Leu Lys Gly Thr Gly	
580	585	590			
Ser	Glu	Ala Pro Thr Asp Tyr	Val Pro Thr	Leu Ala Pro Thr Lys Pro	
595	600	605			
Asp	Leu	Gln Arg Thr Thr	Ser Ser Leu Asp	Lys Glu Val Leu Val	Gly
610	615	620			
Phe	Phe	Ala Arg Val Asn	Tyr Asp Tyr	Lys Arg Arg Tyr Leu	Leu Thr
625	630	635	640		
Val	Ser	Ala Arg Tyr Asp	Gly Ala Ser	Gln Phe Ala Glu Asp His	Lys
645	650	655			
Phe	Ala	Leu Phe Pro Ala Val	Ser Gly	Gly Trp Asn Met His	Tyr Glu
660	665	670			
Asp	Trp	Phe Pro Lys Thr Val	Val Ser Arg	Met Lys Leu Arg Ala Ser	
675	680	685			
Trp	Gly	Gln Thr Gly Asn	Asn Lys Leu	Ser Tyr Ser Asn	Thr Gln Gly
690	695	700			
Glu	Tyr	Ala Ser Tyr Ile	Tyr Ala Gly Asn	Pro Gly Val Leu Asn	Ser
705	710	715	720		
Val	Leu	Ala Asn Asn Ser	Leu Val Trp	Glu Thr Thr Ser Asn	Val Asp
725	730	735			
Tyr	Gly	Phe Asp Ala Gly	Phe Asp Asn Arg	Leu Glu Leu Ser	Val
740	745	750			
Thr	Gly	Tyr Asn Lys Leu	Thr Ser Asp Arg	Leu Tyr Asp	Lys Ala Leu
755	760	765			
Pro	Ala	Gln Thr Gly Phe	Ser Ser Ile	Lys Ala Asn	Leu Gly Thr Val
770	775	780			
Gln	Asn	Glu Gly Phe	Glu Leu Ser	Leu Thr Ala His	Pro Leu Ser Thr
785	790	795	800		
Thr	Ser	Pro Val Ser Trp	Asp Val Thr	Gly Thr Phe Ser	Met Asn Arg
805	810	815			
Thr	Tyr	Met Lys Lys	Leu Pro Tyr	Asn Gly Arg Asp	Lys Asn Arg Val
820	825	830			
Gln	Gly	Gly Leu Val Trp	Asp Ala Lys	Ser Gly Thr	Tyr Val Glu Thr
835	840	845			

Gly Gly Leu Ala Glu Gly Glu Arg Ile Gly Gly Arg Trp Gly Tyr Lys  
 850 855 860  
 Tyr Leu Gly Val Tyr Asp Thr Asp Glu Glu Ala Ala Lys Ala Pro Val  
 865 870 875 880  
 Asp Thr Lys Val Ser Gly Ser Lys Met Asn Lys Lys Lys Val Ala Gly  
 885 890 895  
 Asp Ala Ile Trp Ala Asp Leu Asp Asn Asn Gly Val Ile Asp Asp Lys  
 900 905 910  
 Asp Ile Thr Phe Ile Gly Trp Ala Asn Pro Asp Lys Lys Gly Ala Leu  
 915 920 925  
 Ile Asn Asn Leu Ser Tyr Lys Asn Phe Ser Leu Arg Leu Val Val Asp  
 930 935 940  
 Phe Ala Leu Gly His Ser Ile Ala Asn Ile Trp Arg Cys Arg Ala Asn  
 945 950 955 960  
 Ala Tyr Ala Arg Asn Ala Ile Ile Pro Thr Thr Asp Val Thr Asn Ala  
 965 970 975  
 Asn Ile Trp Trp Gln Thr Gly Asp Ala Ala Thr Ala Lys Tyr Pro Arg  
 980 985 990  
 Tyr Asp Val Ala Ser Asp Trp Asp Asn Gly Tyr Arg Asn His Met Arg  
 995 1000 1005  
 Thr Ile Ala Tyr Ala Gly Met Asn Ser Asn Gly Asn Ala Asp Asn Thr  
 1010 1015 1020  
 Ala Tyr Tyr Ser Lys Gly Asp Tyr Leu Cys Phe Arg Glu Val Ser Leu  
 1025 1030 1035 1040  
 Gly Tyr Glu Leu Pro Arg Ser Ile Cys Ser Lys Met Lys Val Lys Gly  
 1045 1050 1055  
 Val Ser Leu Asn Ala Gly Val Thr Asn Ile Gly Tyr Ile Thr Ala Phe  
 1060 1065 1070  
 Asp Gly Leu Asn Pro Glu Gln Tyr Asp Gly Gln Glu Thr Gly Glu Tyr  
 1075 1080 1085  
 Phe Leu Pro Ile Gln Phe Asn Phe Gly Val Arg Leu Thr Phe  
 1090 1095 1100

<210> 7439

<211> 683

<212> PRT

<213> B.fragilis

<400> 7439

Leu Ser Lys Lys Tyr His Val His Leu His Pro Gln Gly Asp Lys Thr  
 1 5 10 15  
 Met Ile Asp Gln Ala Thr Ile Asp Arg Ile Leu Asp Ala Ala Gln Ile  
 20 25 30  
 Val Glu Val Val Ser Asp Phe Val Thr Leu Arg Lys Arg Gly Val Asn  
 35 40 45  
 Tyr Val Gly Leu Cys Pro Phe His Asn Glu Lys Thr Pro Ser Phe Ser  
 50 55 60  
 Val Ser Pro Ser Lys Gly Leu Cys Lys Cys Phe Ser Cys Gly Lys Gly  
 65 70 75 80  
 Gly Asn Ala Val His Phe Ile Met Glu His Glu Gln Met Ser Tyr Pro  
 85 90 95  
 Glu Ala Leu Arg Tyr Leu Ala Lys Lys Tyr Asn Ile Glu Ile Lys Glu  
 100 105 110  
 Arg Glu Leu Thr Asn Glu Glu Lys Glu Val Gln Ser Asn Arg Glu Ser  
 115 120 125  
 Met Phe Ile Val Asn Asn Phe Ala Arg Asp Tyr Phe Gln Asn Ile Leu  
 130 135 140  
 Lys Asn His Val Asp Gly Arg Ser Ile Gly Leu Ala Tyr Phe Arg Gln  
 145 150 155 160

Arg Gly Phe Arg Asp Asp Ile Ile Asp Lys Phe Gln Leu Gly Phe Ser  
           165                 170                 175  
 Thr Glu Gly Arg Asp Ala Leu Ala Gln Glu Ala Leu Arg Lys Gly Phe  
           180                 185                 190  
 Lys Gln Glu Phe Leu Val Lys Thr Gly Leu Cys Tyr Glu Thr Asp Asp  
           195                 200                 205  
 His Lys Leu Arg Asp Arg Phe Trp Gly Arg Val Met Phe Pro Val His  
           210                 215                 220  
 Thr Leu Ser Gly Lys Val Val Ala Phe Gly Gly Arg Val Leu Ser Thr  
           225                 230                 235                 240  
 Glu Asn Lys Lys Leu Ala Lys Tyr Val Asn Ser Pro Glu Ser Glu Ile  
           245                 250                 255  
 Tyr His Lys Ser Asn Glu Leu Tyr Gly Ile Tyr Phe Ala Lys Gln Ala  
           260                 265                 270  
 Ile Val Lys Gln Asp Arg Cys Phe Leu Val Glu Gly Tyr Thr Asp Val  
           275                 280                 285  
 Ile Ser Met His Gln Ser Gly Val Glu Asn Val Val Ala Ser Ser Gly  
           290                 295                 300  
 Thr Ser Leu Thr Pro Gly Gln Ile Arg Leu Ile His Arg Phe Thr Asn  
           305                 310                 315                 320  
 Asn Ile Thr Val Leu Tyr Asp Gly Asp Met Ala Gly Ile Lys Ala Ser  
           325                 330                 335  
 Ile Arg Gly Ile Asp Met Leu Leu Glu Glu Gly Met Asn Ile Lys Val  
           340                 345                 350  
 Cys Leu Leu Pro Asp Gly Asp Asp Pro Asp Ser Phe Ala Arg Lys His  
           355                 360                 365  
 Asn Ala Thr Glu Phe Gln Asn Phe Ile Gln Glu His Glu Thr Asp Phe  
           370                 375                 380  
 Ile Arg Phe Lys Ala Gln Leu Leu Met Glu Asp Ala Gly Lys Asp Pro  
           385                 390                 395                 400  
 Met Lys Arg Ala Glu Leu Ile Asn Asp Ile Val Arg Ser Ile Ala Val  
           405                 410                 415  
 Ile Pro Glu Ala Ile Val Arg Asp Val Tyr Ile Lys Glu Cys Gly Gln  
           420                 425                 430  
 Leu Leu Arg Ile Glu Asp Lys Leu Leu Val Ser Glu Val Ala Lys Arg  
           435                 440                 445  
 Arg Glu Leu Gln Ala Glu Lys Gly Asn Lys Pro Ile Ala Ser Asn Asn  
           450                 455                 460  
 Ala Pro Thr Pro Gln Pro Gly Glu Met Pro Pro Pro Phe Pro Pro Glu  
           465                 470                 475                 480  
 Glu Met Glu Ala Asp Thr Tyr Gln Ser Phe Ile Pro Gln Glu Gly Lys  
           485                 490                 495  
 Glu Gly Gln Glu Phe Tyr Lys Tyr Glu Arg Leu Ile Ile Gln Met Ile  
           500                 505                 510  
 Val Arg Tyr Gly Glu Lys Val Met Cys Asn Leu Thr Asp Glu Glu Gly  
           515                 520                 525  
 Asn Glu Val Pro Val Thr Val Val Glu Tyr Val Ile Asn Asp Leu Lys  
           530                 535                 540  
 Glu Asp Glu Leu Ala Phe His Asn Pro Leu His Arg Gly Ile Leu Ser  
           545                 550                 555                 560  
 Glu Ala Ser Glu His Ile His Asp Gln Glu Phe Ala Ser Glu Arg Phe  
           565                 570                 575  
 Phe Val Ala His Pro Asp Pro Lys Ile Ser Thr Ile Ala Thr Glu Leu  
           580                 585                 590  
 Ala Ser Asp Arg Tyr Gln Leu Ser Lys Tyr His Ser Lys Thr Gln Lys  
           595                 600                 605  
 Leu Val Thr Asp Glu Glu Arg Leu Tyr Glu Met Val Pro Met Leu Met  
           610                 615                 620  
 Ile Asn Phe Lys Asn Ala Ile Val Ala Glu Glu Leu Lys His Ile Met

625	630	635	640
Tyr Ala Leu Gln Asp Pro Ser Ile Ala Asn Asp Asn Ala Gln Cys Asp			
645	650	655	
Ala Val Met Gln Arg Tyr Lys Glu Met Lys Glu Ile Gln Asn Leu Met			
660	665	670	
Ala Lys Arg Leu Gly Asp Arg Val Val Leu Arg			
675	680		

<210> 7440

<211> 534

<212> PRT

<213> B.fragilis

<400> 7440

Asn Ile Thr Asp Met Lys Phe Val Thr Leu Ser Leu Leu Ala Thr Ala			
1	5	10	15
Leu Thr Val Gly Gly Asn Ala Ala Glu Gln Ala Arg Ser Ser Lys Gln			
20	25	30	
Pro Asn Ile Leu Phe Ile Leu Ala Asp Asp Phe Gly Trp Arg Asp Leu			
35	40	45	
Ala Cys Thr Gly Ser Arg Tyr Tyr Glu Ser Pro Asn Ile Asp Gly Ile			
50	55	60	
Ala Arg Asn Gly Val Arg Phe Thr Gln Gly Tyr Ala Ala Cys Gln Val			
65	70	75	80
Ser Ser Pro Ser Arg Ala Ser Ile Met Thr Gly Lys Phe Thr Ala Arg			
85	90	95	
His Gly Ile Thr Asn Trp Ile Gly Glu Gly Ser Gly Glu Glu Trp Arg			
100	105	110	
Lys Met Gly Arg His Ser Lys Leu Leu Pro Ala Gln Tyr Val Trp Gln			
115	120	125	
Leu Pro Lys Glu Asp Ile Thr Leu Pro Glu Ala Leu Lys Ala His Gly			
130	135	140	
Tyr Lys Thr Phe Met Ala Gly Lys Trp His Leu Gly Gly Glu Gly Ser			
145	150	155	160
Tyr Pro Glu Asp His Gly Phe Asp Ile Asn Ile Gly Gly His Glu Ala			
165	170	175	
Gly Gly Pro Tyr Pro Gly Gly Tyr Phe Ala Pro Tyr Gly Asn Pro Lys			
180	185	190	
Met Lys Glu Gly Pro Asp Gly Glu Asn Leu Ser Met Arg Leu Ala His			
195	200	205	
Glu Thr Ala Ser Phe Ile Glu Thr His Thr Arg Arg Asn Lys Lys Gln			
210	215	220	
Pro Phe Phe Ala Phe Leu Ser Phe Tyr Ala Val His Ala Pro Ile Glu			
225	230	235	240
Thr Thr Glu Ala Lys Trp Arg His Phe Arg Asn Lys Ala Asp Ser Met			
245	250	255	
Gly Ile Ala Pro Met Gly Phe Glu Val Asp Arg Thr Leu Pro Val Arg			
260	265	270	
Leu Gln Gln Asp Asn Pro Ile Tyr Ala Gly Leu Ile Gln Gln Met Asp			
275	280	285	
Asp Ala Val Gly Val Val Leu Ala Lys Leu His Glu Leu Gly Leu Asp			
290	295	300	
Glu Asn Thr Ile Ile Val Phe Thr Ser Asp Asn Gly Gly Val Ser Ser			
305	310	315	320
Gly Asp Ala Tyr Ala Thr Ser Asn Tyr Pro Leu Arg Gly Gly Lys Gly			
325	330	335	
Arg Gln Trp Glu Gly Gly Ile Arg Val Pro Leu Phe Ile Asp Phe Pro			
340	345	350	
Gly Asn Thr Leu Lys Gly Asp Ser Cys Val Val Pro Val Thr Gly Ala			

355	360	365
Asp Leu Tyr Pro Thr Phe Leu	Asp Met Ala Gly Ile	Pro Leu Met Pro
370	375	380
Gly Gln His Gln Asp Gly Val Ser Leu Leu	Pro Leu Leu Gln Gly Lys	
385	390	395
Ser Ile Pro Glu Arg Ala Leu Tyr Trp His Tyr Pro His Tyr Gly Asn		400
405	410	415
Gln Gly Gly Glu Pro Ser Ser Ile Ile Arg Gln Gly Asp Trp Lys Leu		
420	425	430
Ile His Tyr Tyr Glu Asp Gly Arg Asp Glu Leu Tyr Asn Leu Arg Ile		
435	440	445
Asp Glu Thr Glu Ser Glu Pro Leu Asn Val Gln Tyr Pro Glu Lys Val		
450	455	460
Glu Phe Leu Ser Lys Lys Leu Ser Val Trp Leu Thr Glu Val Gly Ala		
465	470	475
Arg Tyr Pro Glu Pro Asp Pro Gln Tyr Asn Pro Ala Ala Glu Ala Leu		
485	490	495
Tyr Lys Lys Lys Thr Arg Glu Arg Met Met Arg Thr Leu Glu Ala Thr		
500	505	510
Arg Lys Lys Gln Leu Gly Lys Asp Phe Lys Pro Asn Ala Asp Trp Trp		
515	520	525
Gly Ser Glu Thr Lys Asp		
530		

<210> 7441  
<211> 355  
<212> PRT  
<213> B.fragilis

<400> 7441		
Ile Asp Met Glu Leu Glu Ser Ile Leu Leu Pro Gly Val Glu Asp Lys		
1                       5                       10                       15		
Arg Pro Met Val Ile Ala Gly Pro Cys Ser Ala Glu Thr Glu Glu Gln		
20                       25                       30		
Val Met Ser Thr Ala Thr Gln Leu Ala Ala Lys Gly Val Lys Ile Phe		
35                       40                       45		
Arg Ala Gly Ile Trp Lys Pro Arg Thr Lys Pro Gly Gly Phe Glu Gly		
50                       55                       60		
Ile Gly Val Asp Gly Leu Ala Trp Leu Lys Glu Val Lys Lys Glu Thr		
65                       70                       75                       80		
Gly Met Tyr Val Ser Thr Glu Val Ala Thr Ala Lys His Val Tyr Glu		
85                       90                       95		
Cys Leu Lys Ala Gly Ile Asp Val Leu Trp Val Gly Ala Arg Thr Thr		
100                       105                       110		
Ala Asn Pro Phe Ala Val Gln Glu Ile Ala Asp Ala Leu Lys Gly Val		
115                       120                       125		
Asp Ile Pro Val Leu Val Lys Asn Pro Val Asn Pro Asp Leu Glu Leu		
130                       135                       140		
Trp Ile Gly Ala Leu Glu Arg Ile Asn Asn Ala Gly Leu Lys Arg Leu		
145                       150                       155                       160		
Gly Ala Ile His Arg Gly Phe Ser Ser Tyr Asp Lys Lys Leu Tyr Arg		
165                       170                       175		
Asn Leu Pro Gln Trp His Ile Pro Ile Glu Leu Arg Arg Arg Ile Pro		
180                       185                       190		
Glu Leu Pro Ile Phe Cys Asp Pro Ser His Ile Gly Gly Lys Arg Glu		
195                       200                       205		
Leu Val Ala Pro Leu Cys Gln Gln Ala Met Asp Leu Asn Phe Asp Gly		
210                       215                       220		
Leu Ile Val Glu Ser His Cys Asn Pro Asp Cys Ala Trp Ser Asp Ala		

225	230	235	240
Ser Gln Gln Val Thr Pro Asp Val Leu Asp Tyr Ile Leu Asn Leu Leu			
245	250	255	
Val Ile Arg Lys Glu Thr Gln Thr Thr Glu Asn Leu Asn Val Leu Arg			
260	265	270	
Lys Gln Ile Asp Glu Cys Asp Asp Asn Ile Ile Gln Glu Leu Ala Lys			
275	280	285	
Arg Met Arg Val Ala Arg Glu Ile Gly Thr Tyr Lys Lys Glu His Asp			
290	295	300	
Ile Thr Val Leu Gln Thr Gly Arg Tyr Asn Glu Ile Leu Glu Lys Arg			
305	310	315	320
Gly Ala Gln Gly Glu Gln Cys Gly Met Ser Ala Glu Phe Val Lys Val			
325	330	335	
Ile Phe Glu Ala Ile His Glu Glu Ser Val Arg Gln Gln Met Glu Ile			
340	345	350	
Ile Asn Lys			
355			

&lt;210&gt; 7442

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7442

Tyr Glu Ser Arg Ser Asp Met Asp Ala Gly Phe Phe Tyr Thr Ile Tyr			
1	5	10	15
Ser Ile Gly Met Lys Arg Ile Ala Ile Gln Gly Thr Leu Gly Ser Tyr			
20	25	30	
His Asp Ile Ala Ala His Lys Tyr Phe Glu Gly Glu Ile Glu Leu			
35	40	45	
Ile Cys Cys Ala Asn Phe Glu Asp Val Phe Ala Ala Ile Arg Lys Asp			
50	55	60	
Ser Gln Thr Ile Gly Met Leu Ala Ile Glu Asn Thr Ile Ala Gly Ser			
65	70	75	80
Leu Leu His Asn Asn Glu Leu Leu Arg Gln Ser Gly Thr Gln Ile Ile			
85	90	95	
Gly Glu Tyr Lys Leu Arg Ile Ser His Ser Phe Val Cys Leu Pro Glu			
100	105	110	
Glu Asp Trp Asn Asp Ile Thr Glu Val Asn Ser His Pro Ile Ala Leu			
115	120	125	
Met Gln Cys Arg Glu Phe Leu Asn Gln His Pro Arg Ile Lys Val Val			
130	135	140	
Glu Ala Glu Asp Thr Ala Leu Ser Ala Glu Ile Ile Lys Arg Glu Asn			
145	150	155	160
Leu Lys Gly His Ala Ala Ile Cys Ser Arg Ala Ala Ala Glu Arg Tyr			
165	170	175	
Gly Met Lys Val Leu Gln Glu Gly Ile Glu Thr Asn Lys His Asn Phe			
180	185	190	
Thr Arg Phe Leu Val Val Ala Asp Pro Trp Gln Val Asp Glu Ile Arg			
195	200	205	
Lys Gln Asn Thr Val Leu Asn Lys Ala Asn Ile Val Phe Thr Leu Pro			
210	215	220	
His Ser Glu Gly Ser Leu Ser Gln Val Leu Ser Ile Leu Ser Phe Tyr			
225	230	235	240
Asn Ile Asn Leu Thr Lys Ile Gln Ser Leu Pro Ile Ile Gly Arg Glu			
245	250	255	
Trp Glu Tyr Gln Phe Tyr Val Asp Val Ala Phe Asn Asp Tyr Leu Arg			
260	265	270	
Tyr Lys Gln Ser Ile Thr Ala Ile Thr Pro Leu Thr Lys Glu Leu Lys			

275	280	285
Ile Leu Gly Glu Tyr Ala Glu	Gly Lys Ser Asn Val	
290	295	300

&lt;210&gt; 7443

&lt;211&gt; 521

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7443

Leu Val Ser Gly Lys Val Ile Val Trp Arg Gly Ala Phe Val Lys Arg		
1 5	10	15
Ser Ser Phe Glu Trp Ser Tyr Lys Lys Asn Gly Asn Met Lys Arg Leu		
20 25	30	
Ile Leu Pro Ile Ala Cys Gly Ile Cys Thr Val Thr Ser Asp Ala Gln		
35 40	45	
Thr Asp Lys Gln Pro His Pro Asn Val Ile Phe Ile Tyr Ala Asp Asp		
50 55	60	
Leu Gly Tyr Lys Asp Leu Ser Cys Thr Gly Ser Arg Phe Tyr Glu Thr		
65 70	75	80
Pro His Ile Asp Lys Leu Ala Arg Glu Gly Val Trp Phe Thr Gln Ser		
85 90	95	
Tyr Ala Ala Cys Pro Val Ser Ser Pro Ser Arg Ala Ala Leu Leu Thr		
100 105	110	
Gly Lys Tyr Pro Ala Arg Ile Asn Leu Thr Asp Tyr Ile Pro Gly Asp		
115 120	125	
Arg Ala Tyr Gly Pro His Lys Asn Gln Arg Leu Ala Ser Leu Pro Phe		
130 135	140	
Asn Leu His Leu Ser Lys Asp Glu Ile Thr Met Ala Glu Ala Phe Arg		
145 150	155	160
Gln Asn Gly Tyr Ser Thr Phe Met Ala Gly Lys Trp His Leu Ala Glu		
165 170	175	
Ser Ala Glu Tyr Tyr Pro Glu Gln Asn Gly Phe Asp Ile Asn Ile Gly		
180 185	190	
Gly Asn Asn Thr Gly His Pro Ser Lys Gly Tyr Phe Ser Pro Tyr Gly		
195 200	205	
Asn Pro Gln Leu Lys Asp Gly Pro Glu Gly Glu Tyr Leu Thr Asp Arg		
210 215	220	
Leu Thr Asp Glu Val Ile Arg Tyr Ile Ser Glu Pro Lys Glu Lys Pro		
225 230	235	240
Phe Phe Val Tyr Leu Ser Tyr Tyr Thr Val His Leu Pro Leu Gln Ala		
245 250	255	
Lys Ala Glu Lys Ile Ala Lys Tyr Arg Arg Arg Leu Ser Arg Ala Val		
260 265	270	
Pro Ala Asp Ser Ser Phe Val Lys Lys Gly Glu Thr Tyr His Lys Leu		
275 280	285	
Val Gln Asp Ile Pro Ala Tyr Ala Ala Met Val Glu Ser Leu Asp Glu		
290 295	300	
Asn Ile Gly Arg Leu Leu Asp Thr Leu His Arg Ser Gly Leu Asp Glu		
305 310	315	320
Arg Thr Ile Val Val Phe Thr Ser Asp Asn Gly Gly Met Ala Thr Ser		
325 330	335	
Asn Thr Thr Arg Asn Ile Pro Thr Ser Asn Leu Pro Leu Arg Ala Gly		
340 345	350	
Lys Gly Tyr Leu Tyr Glu Gly Gly Ile Lys Val Pro Ala Ile Ile Arg		
355 360	365	
Trp Ser Gly His Leu Lys Gly Arg Gln Val Ser Asp Thr Pro Ile Ile		
370 375	380	
Gly Thr Asp Tyr Tyr Pro Thr Leu Leu Asp Leu Cys Gly Leu Arg Leu		

385	390	395	400
Leu Pro Gly Gln His Val Asp Gly Val Ser Met Lys Pro Val Leu Gln			
405	410	415	
Gly Gly Arg Leu Ser Arg Pro Ser Leu Phe Trp His Tyr Pro His Tyr			
420	425	430	
Ser Gly Gly Leu Gly Gly Arg Pro Ser Ala Ala Ile Arg Glu Gly Asp			
435	440	445	
Tyr Lys Leu Ile Glu Phe Phe Glu Asp His His Val Glu Leu Tyr Asn			
450	455	460	
Val Ile Gln Asp Glu Ser Glu Glu Lys Asp Leu Ser Gln Ile Tyr Pro			
465	470	475	480
Glu Ile Ala Asp Gly Leu Arg Lys Lys Leu Tyr Leu Trp Tyr Lys Glu			
485	490	495	
Val Gly Ala Arg Met Pro Val Asp Asn Pro His Tyr Val Ser Pro Val			
500	505	510	
Lys Asp Ser Asp Ser Phe Glu Asn Lys			
515	520		

&lt;210&gt; 7444

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (57)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7444

Phe Asn Phe Ile Tyr Lys Phe Leu Asp Gln Gln Lys Val Ala Gln Asp			
1	5	10	15
Leu Pro Cys Gln Lys Phe His Leu Ile Leu Val Leu Gln Lys Glu Asn			
20	25	30	
Lys Gln Asn Ser Asn Met Thr Trp Pro Lys Ile Gln Ile Lys Ser Glu			
35	40	45	
Lys Leu Thr Thr Phe Trp Arg Ile Xaa Phe Ile His Gly Arg Asn			
50	55	60	

&lt;210&gt; 7445

&lt;211&gt; 313

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7445

Asp Arg Leu Met Lys Ile Glu Lys Glu Ile Leu Tyr Arg Tyr Phe Asn			
1	5	10	15
Gly Asp Ala Thr Pro Glu Glu Glu His Lys Ile Arg Gln Tyr Leu Glu			
20	25	30	
Ala Ser Asp Glu Asn Trp Lys Glu Tyr Leu Arg Glu Arg Lys Phe Phe			
35	40	45	
Asp Thr Ile Ile Leu Lys Glu Gln Val Val Ser Glu Glu Lys Gln Met			
50	55	60	
Lys Arg Arg Gln Leu Ile Arg Lys Ile Ser Leu Glu Cys Leu Lys Val			
65	70	75	80
Ala Ala Val Leu Leu Ile Ala Phe Gly Thr Ala Phe Phe Trp Asn Asn			
85	90	95	
Gln Ser Glu Lys Pro Ala Thr Lys Ser Val Val Asn Thr Leu Lys Gly			
100	105	110	
Gln Met Ala Asn Ile Thr Leu Pro Asp Gly Ser Arg Val Trp Leu Asn			

115	120	125
Ser Asn Thr Arg Ile Glu Tyr	Ser Gln His Phe Asp Asp Lys Arg Glu	
130	135	140
Val Gln Ile Asp Gly Glu Ala Tyr Phe Glu Val Val Arg Asn Thr Gly		
145	150	155
Arg Pro Phe Ile Val Tyr Thr Pro Asp Asp Glu Gln Val Glu Val Leu		
165	170	175
Gly Thr Lys Phe Tyr Val Glu Ala Tyr Ser Gly Thr Lys Lys Phe Glu		
180	185	190
Thr Ala Leu Ile Glu Gly Ser Val Arg Val Arg Ala Ala Asn Ser Gln		
195	200	205
Phe Ile Leu Gln Pro Ser Tyr Lys Ala Val Leu Lys Gly Gly Lys Met		
210	215	220
Ser Val Glu Lys Ile Thr Asp Phe Asp Ile Tyr Arg Trp Arg Glu Gly		
225	230	235
Leu Ile Cys Phe Lys Asn Arg His Phe Ser Glu Ile Leu Glu Glu Leu		
245	250	255
Lys Lys Tyr Tyr Gly Val His Ile Arg Phe Asp Ala Ala Lys Ile Asn		
260	265	270
Asn Pro Val Leu Thr Val Lys Phe Arg Leu Ser Asp Gly Ile Glu Tyr		
275	280	285
Ala Leu Arg Val Leu Gln Lys Asp Val Lys Phe Lys Tyr Val Arg Asn		
290	295	300
Asp Glu Glu Asn Thr Phe Val Ile Lys		
305	310	

&lt;210&gt; 7446

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7446

Ile Val Ile Ile Leu Tyr Asn Ile Lys Thr Pro Ser Leu Ser Ser Leu		
1	5	10
Ala Asp Gln Val His Lys Leu Phe Thr Gly Leu Ser Leu Ile Lys Ser		
20	25	30
Ser Cys Lys Val Gly Ser Ser Ser Tyr Gly Ile Leu Phe Phe His Ser		
35	40	45
Ala His Leu His Thr His Met Leu Gly Phe His His Asp His Tyr Ala		
50	55	60
Gln Arg Ile Gln Arg Phe Leu Asn Thr Leu Phe Asn Leu Gln Arg His		
65	70	75
Pro Phe Leu His Leu Gln Pro Met Arg Glu Asn Ile Asp His Thr Gly		
85	90	95
Tyr Phe Thr		

&lt;210&gt; 7447

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7447

Gln Asn Ser Met Ser Ala Thr Ile Asn Asp Leu Ala Ser Phe Asn Lys		
1	5	10
Phe Phe Thr Glu Asn Gln His Arg Phe Ile Arg Phe Ala Trp Thr Tyr		
20	25	30
Thr Arg Asp Glu Val Val Ala Glu Asp Ile Val Met Glu Ser Leu Met		
35	40	45

Ala Tyr Trp Glu Asn Arg Asp His Met Thr Pro Glu Ile Asn Pro Ala  
 50 55 60  
 Ala Tyr Val Leu Thr Val Val Lys Asn Lys Cys Leu Asn Tyr Leu Arg  
 65 70 75 80  
 His Leu Gln Leu Val Asn Asp Val Ser Asp Arg Val Ala Ser His Ser  
 85 90 95  
 Glu Trp Glu Leu Ser Asn Arg Ile Ala Thr Leu Asp Ala Cys Glu Pro  
 100 105 110  
 Asn Ala Leu Phe Ala Ser Glu Val Gln Asp Ile Ile Asp Arg Val Ile  
 115 120 125  
 Ser Arg Leu Ser Ala Thr Thr Ala Arg Ile Phe Leu Leu Ser Arg Tyr  
 130 135 140  
 Asp Asn Lys Ser His Lys Glu Ile Ala Glu Ile Met Gly Met Thr Val  
 145 150 155 160  
 Lys Gly Val Glu Phe His Ile Ser Lys Ala Thr Lys Glu Leu Arg Val  
 165 170 175  
 Ala Leu Lys Asp Tyr Leu Val Leu Phe Pro Phe Leu Cys Asp Phe Leu  
 180 185 190  
 Ser Arg Asn  
 195

&lt;210&gt; 7448

&lt;211&gt; 1128

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7448

Ser Lys Asp Met Lys Asn Thr Arg Cys Thr Asp Phe Cys Val Pro Lys  
 1 5 10 15  
 Asn Ser Ser Ile Lys Gln Leu Leu Lys Thr Met Arg Val Thr Ile Phe  
 20 25 30  
 Leu Leu Phe Phe Cys Val Phe Ser Thr Ile Ala Gly Thr Val Asn Ser  
 35 40 45  
 Gln Asn Ala Arg Val Ser Ile His Lys Thr Asn Val Pro Leu Glu Glu  
 50 55 60  
 Ile Leu Asn Glu Ile Glu His Gln Thr Asp Tyr Leu Phe Met Tyr Ser  
 65 70 75 80  
 Asn Asn Ile Asp Val Lys Glu Arg Thr Ser Ile Arg Val Ser Glu Lys  
 85 90 95  
 Pro Val Ser Glu Val Leu Lys Leu Leu Gly Asn Lys Ile Ala Tyr  
 100 105 110  
 Glu Met Glu Gly Met His Ile Ile Leu Ser Asp Lys Arg Glu Asn Gln  
 115 120 125  
 Thr Ala Ile Ala Gln Gln Ala Asn Lys Ile Gln Val Lys Gly Asn Val  
 130 135 140  
 Thr Asp Met Ala Gly Glu Pro Val Ile Gly Ala Ser Ile Leu Glu Lys  
 145 150 155 160  
 Gly Thr Thr Asn Gly Ile Val Thr Asp Phe Asn Gly Asp Phe Ser Leu  
 165 170 175  
 Asn Val Asn Pro Gly Ala Val Leu Val Ser Tyr Ile Gly Tyr Ser  
 180 185 190  
 Ala Gln Glu Val Lys Val Ile Pro Gly Lys Val Leu Lys Ile Lys Ile  
 195 200 205  
 Lys Glu Asp Ala Glu Leu Leu Asp Glu Val Val Val Val Gly Tyr Gly  
 210 215 220  
 Thr Gln Lys Lys Val Asn Leu Thr Gly Ala Val Glu Thr Val Asp Ala  
 225 230 235 240  
 Asp Val Ile Glu Asn Arg Pro Ile Arg Ser Ala Thr Asp Ala Leu Gln  
 245 250 255

Gly Thr Val Ser Gly Leu Thr Val Thr Ser Gly Thr Gly Lys Pro Gly  
 260 265 270  
 Glu Phe Ala Ser Phe Lys Ile Arg Gly Asn Thr Ser Val Asn Ser Ala  
 275 280 285  
 Gly Ala Leu Val Ile Ile Asp Gly Met Pro Gly Asp Ile Asn Thr Val  
 290 295 300  
 Asn Pro Gln Asp Ile Glu Thr Ile Ser Val Leu Lys Asp Ala Ala Ser  
 305 310 315 320  
 Ala Ala Ile Tyr Gly Ala Arg Ala Ala Glu Gly Val Val Leu Val Thr  
 325 330 335  
 Thr Lys Lys Gly Thr Ser Glu Lys Val Lys Val Glu Tyr Thr Gly Asn  
 340 345 350  
 Phe Ser Phe Asn Thr Pro Thr Arg Leu Pro Glu Ser Asn Thr Gly Leu  
 355 360 365  
 Asp His Ala Leu Leu Ser Asn Val Ala Phe Thr Asn Ala Gly Leu Ala  
 370 375 380  
 Ile Pro Phe Ser Gln Lys Ala Ile Asp Ala Ile Lys Asp Pro Asn Thr  
 385 390 395 400  
 Ile Ala Ile Pro Asn Gly Lys Glu Trp Thr Tyr Thr Ser Asp Met Asp  
 405 410 415  
 Trp Ile Asp Leu Met Met Asp His Ser Phe Gln Gln Thr His Asn Leu  
 420 425 430  
 Thr Ile Ser Lys Ala Ser Asp Arg Leu Lys Tyr Leu Phe Ser Ile Gly  
 435 440 445  
 Trp Leu Asp Gln Asn Gly Met Phe Ser Glu Tyr Gly Pro Asp Asn Tyr  
 450 455 460  
 Asp Arg Ile Asn Leu Arg Ser Asn Ile Ser Val Glu Leu Ile Lys Asp  
 465 470 475 480  
 Lys Leu Ser Leu Asp Ser Arg Ile Ser Tyr Ser Arg Gly Val Asn Leu  
 485 490 495  
 Tyr His Ala Ala Glu Gly Ser Trp Ser Ile Pro Tyr Ile Thr Phe Ile  
 500 505 510  
 Gln Ala Gly Pro Asn Met Pro Val Tyr Asp Pro Asn Gly Asn Tyr Ser  
 515 520 525  
 Arg His Arg Met Gln Leu Asn Pro Ile Gln Ala Leu Lys Glu Gly Gly  
 530 535 540  
 Glu Gly Arg Thr Arg Asn Gln Arg Ile Glu Gly Val Phe Thr Leu Glu  
 545 550 555 560  
 Tyr Lys Pro Val Lys Gly Leu Ser Leu Arg Ala Val Gly Gly Ala Asn  
 565 570 575  
 Ile Leu Asp Gly Gln Lys Lys Glu Trp Arg Arg Ala Tyr Gly Lys Tyr  
 580 585 590  
 Gly Val Asp Gly Leu Ile Ser Thr Ala Phe Gly Gln Lys Ser Pro Asn  
 595 600 605  
 Ser Val Thr Gln Asn Asn Ser His Arg Gln Tyr Leu Thr Gly Gln Leu  
 610 615 620  
 Ile Ala Glu Tyr Lys Gly Val Phe Gly Lys His Asp Ile Asn Val Leu  
 625 630 635 640  
 Gly Gly Trp Ser Ala Glu Glu Asn Leu Tyr Glu Asp Leu Gln Gly Lys  
 645 650 655  
 Arg Thr Asn Ile Val Gly Asn Glu Leu Pro Ala Leu Asn Leu Gly Asp  
 660 665 670  
 Thr Asp Gly Trp Ser Asn Ala Ala Asp Glu Asn Glu Trp Ala Leu Leu  
 675 680 685  
 Ser Gly Phe Met Arg Ala Ser Tyr Ala Phe Ala Ala Lys Tyr Leu Val  
 690 695 700  
 Glu Val Asn Phe Arg Ala Asp Ala Ser Ser Arg Phe Ser Tyr Lys Asn  
 705 710 715 720  
 Arg Trp Gly Val Phe Pro Ser Ala Ser Val Gly Trp Arg Ile Thr Glu

725	730	735
Glu Lys Phe Met Gln Asn Gln His Ile Phe Asp Asn Leu Lys	Lys	Leu Arg
740	745	750
Ala Ser Trp Gly Gln Leu Gly Asn Gln Asn Gly Leu Gly	Leu	Tyr Asp
755	760	765
His Ile Ala Ser Tyr Asn Ile Asn Gly Tyr Tyr Pro Phe Lys	Ser	Glu
770	775	780
Leu Gly Gln Trp Ala Val Ile Ser Lys Leu Pro Ser Glu Ser	Arg	Thr
785	790	795
Trp Glu Thr Val Glu Val Lys Asn Ile Ala Val Asp Met Ala	Phe	Leu
805	810	815
Arg Asn Arg Leu Thr Val Thr Gly Glu Tyr Phe Ile Lys Lys	Asn	Lys
820	825	830
Asp Met Leu Val Ser Ile Glu Ile Pro Ser Ile Ile Gly Ile	Asp	Val
835	840	845
Pro Thr Gly Asn Tyr Gly Glu Leu Lys Val Lys Gly Trp Glu	Val	Thr
850	855	860
Val Gly Trp Gln Asp Lys Ile Lys Asp Phe Ser Tyr Gly Ala	Arg	Phe
865	870	875
Asn Leu Ser Asp Gln Lys Asp Lys Leu Val Asp Tyr Gly Val	Glu	Tyr
885	890	895
Asn Gly Phe Val Ala Gly Val Asn Gln Lys Val Gln Gly Tyr	Ser	Leu
900	905	910
Gly Ser Ile Phe Gly Tyr Arg Thr Asp Gly Tyr Phe Thr Ser	Glu	Glu
915	920	925
Glu Val Lys Asn Ser Ala Ala Phe Asn Lys Ala Ile Thr Gly	Val	Gly
930	935	940
Asp Ile Lys Tyr Ile Asp Lys Asp Gly Asp Gly Lys Ile Ser	Ala	Pro
945	950	955
Asn Asp Leu Glu Tyr Leu Gly Thr Thr Pro Arg Tyr Thr Phe	Gly	
965	970	975
Leu Asn Leu Thr Ala Ala Trp Lys Gly Phe Asp Leu Gly Val	Leu	Leu
980	985	990
Gln Gly Val Gly Lys Arg Asn Phe Tyr Leu Ser Ser Glu Val	Met	Asn
995	1000	1005
Pro Tyr Tyr Ala Thr Trp Asn Asn Phe Ser Tyr Lys Met His	Asn	Asp
1010	1015	1020
Tyr Trp Thr Pro Glu Asn Pro Asn Ala Ala Phe Pro Arg Tyr	Tyr	Ala
1025	1030	1035
Gly Ala Asn His Asn Tyr Gln Ile Ser Asp His Trp Leu Gln	Asn	Ala
1045	1050	1055
Ala Tyr Val Arg Leu Lys Asn Leu Gln Leu Gly Tyr Thr Ile	Ser	Pro
1060	1065	1070
Lys Leu Thr Lys Ser Trp Gly Ile Gln Arg Leu Arg Val Tyr	Phe	Ser
1075	1080	1085
Gly Asp Asn Leu Cys Glu Tyr Ser Lys Leu Asn Asp Asn Phe	Asp	Pro
1090	1095	1100
Glu Leu Ser Asp Ile Asn Gly Tyr Val Tyr Pro Ile Met Arg	Asn	Phe
1105	1110	1115
Ser Phe Gly Ile Asn Val Thr Leu		1120
	1125	

&lt;210&gt; 7449

&lt;211&gt; 493

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7449

Leu Phe Lys Met Ile Phe Thr Met Lys Ala Thr Lys Ile Leu Ile Cys

1	5	10	15
Ile Leu Cys Cys	Thr Trp Ile Cys Ser	Cys Ser Leu Leu	Glu Val Asp
20	25		30
Pro Val Ser Thr Ile Thr Ser Gln Ser Phe Trp Lys	Thr Pro Gly Asp		
35	40	45	
Ala Lys Ala Tyr Leu Thr Gly Ile Tyr Asn Lys Val	Arg Asp Leu Asn		
50	55	60	
Asn Thr Ser Tyr Tyr Gly Glu Asp Arg Gly Asp Ala	Phe Lys Ala Gly		
65	70	75	80
Glu Ile Gly Pro Thr Ser Val Ala Trp Ala His Thr	Leu Leu Glu Ser		
85	90		95
Asn Ala Pro Ser Tyr Arg Ser Ala Tyr Asn Ile Ile	His His Ala Asn		
100	105		110
Leu Leu Phe Asn Lys Ile Glu Ser Leu Lys Phe Thr	Asn Glu Thr Glu		
115	120	125	
Lys Asn Arg Ile Lys Ala Glu Cys His Phe Leu Arg	Ala Tyr Thr Tyr		
130	135	140	
Phe Leu Ile Val Arg Ile Trp Gly Asp Ala Pro Ile	Ile Thr Asp Pro		
145	150	155	160
Val Leu Ser Asp Asn Val Glu Leu Lys Pro Arg Ser	Pro Lys Glu Asp		
165	170		175
Val Met Lys Leu Ile Leu Glu Asp Ile Glu Gln Ala	Val Leu Leu Phe		
180	185		190
Pro Glu Asp Gly Tyr Ile Asn Lys Asn Leu Ala Ser	Lys Pro Ala Ala		
195	200	205	
Tyr Ala Leu Lys Ala Asp Val Leu Met Trp Lys Ala	Lys Val Leu Asn		
210	215	220	
Gly Gly Asn Ala Asp Leu Glu Ala Ile Lys Ala Ile	Asp Gln Val		
225	230	235	240
Gly Gly Ser Gly Val Ser Leu Leu Pro Asp Tyr Ala	Lys Val Phe Ala		
245	250	255	
Asn Asp Asn Lys Asn Asn Glu Ile Ile Phe Ser Phe	Tyr Phe Glu		
260	265		270
Arg Tyr Glu Thr Gly Asn Leu Ser Ile Ala Thr Asn	Thr Thr Ser Arg		
275	280	285	
Thr Asp Asn Leu Ser Met Ala Val Asn Leu Ala Asp	Ala Ala Thr Ser		
290	295	300	
Pro Asn Gln Ser Arg His Val Tyr Ala Pro Ser Asp	Lys Ala Arg Glu		
305	310	315	320
Leu Tyr Leu Lys Tyr Pro Gly Asp Arg Arg Tyr	Lys Val Ala Met Ile		
325	330	335	
Asp Leu Val Asp Lys Asp Gly Asn Leu Ile Leu Thr	Gln Thr Asn Lys		
340	345	350	
Phe Arg Gly Lys Ala Tyr Ser Asp Asp Arg Tyr	Phe Asp Asp Asp Leu		
355	360	365	
Ile Ala His Arg Trp Gly Asp Leu Leu Leu	Arg Ala Glu Ala Asn		
370	375	380	
Ala Ala Leu Asn Lys Ile Ser Glu Ser Leu Val Asp	Leu Asn Glu Val		
385	390	395	400
Arg Asp Arg Ala Gly Leu Glu Pro Tyr Asp Gly	Pro Lys Asp Lys Ile		
405	410	415	
Ala Val Glu Lys Glu Ile Cys Asp Glu Arg Leu Arg	Glu Leu Phe Ile		
420	425	430	
Glu Gln Lys Arg Trp Phe Asp Leu Val Arg Phe His	Cys Gly Gly Thr		
435	440	445	
Ile Asp Ile Tyr Lys Glu Val Pro Asn Leu Asn Asp	Lys Pro Gly Tyr		
450	455	460	
Pro Leu Tyr Phe Pro Ile Asn Tyr Asn Asp Met Val	Leu Asn Asp Lys		
465	470	475	480

Leu Val Gln Thr Asp Gly Tyr Glu Ser Asn Val Glu Arg  
485 490

<210> 7450

<211> 199

<212> PRT

<213> B.*fragilis*

<400> 7450

<210> 7451

<211> 286

<212> PRT

<213> B.*fragilis*

<400> 7451

Tyr	Ile	Gly	Leu	Ser	Leu	Leu	Met	Phe	Ala	Lys	Trp	Asp	Val	Ser	Val
1				5					10					15	
Leu	Lys	Met	Leu	Val	Phe	Leu	Leu	Lys	Thr	Ser	Phe	Ile	Cys	Gln	Thr
				20				25					30		
Asn	Lys	Ile	Asn	Leu	Ile	Leu	Thr	Lys	Leu	Asn	Cys	Tyr	Thr	Met	Asp
				35			40				45				
Thr	Leu	Lys	Leu	His	Gly	Gln	Ala	Ile	Thr	Leu	Val	Asp	Gln	Val	Glut
				50			55			60					
Asp	Asn	Leu	Leu	Thr	Tyr	Phe	Arg	Thr	Lys	Asp	Leu	Arg	Ala	Gly	Asp
				65		70			75				80		
Ala	Ile	Pro	Asn	Glu	Met	Glu	Leu	Ala	Ala	Ala	Leu	Gly	Val	Ala	Arg
				85			90				95				
Ser	Val	Leu	Arg	Glu	Ala	Leu	Ser	Arg	Leu	Lys	Met	Val	Gly	Met	Ile
				100			105				110				
Glu	Thr	Arg	Thr	Arg	Arg	Gly	Met	Ile	Leu	Thr	Glu	Pro	Ser	Ile	Leu
				115			120				125				
Gly	Gly	Met	Lys	Arg	Val	Val	Asp	Pro	Arg	Ile	Leu	Ser	Glu	His	Ser

130	135	140
Leu Phe Asp Leu Leu Gly	Phe Arg Ile Ala Leu	Glu Leu Gly Ile Cys
145	150	155
Ser Asp Leu Phe Gln Asn Ile Thr Pro	Glu Asp Ile Val	Glu Leu Lys
165	170	175
Glu Ile Val Arg Leu Gly Ile Ala Phe	Glu Asn Asn Glu	Tyr Ala Pro
180	185	190
Ile Ser Glu Phe Thr Phe His Ala	Lys Leu Tyr Glu	Ile Thr Gly Asn
195	200	205
Ala Thr Ile Arg Glu Phe Gln Glu	Ile Ile His Pro	Val Met Val Phe
210	215	220
Val Lys Asp Lys Phe Lys Glu	Leu Leu Glu	Pro Ile Asn Ile Glu Ile
225	230	235
Lys Glu Arg Gly Glu	Leu Val Thr His Ala	Asp Leu Leu Gly Phe Leu
245	250	255
Glu Lys His Asp Glu Ala Gly Tyr	Arg Lys Ala Leu Glu	Lys His Phe
260	265	270
Ala Val Tyr Lys Ile Phe Met Lys	Arg Arg Ile Val Asn Glu	
275	280	285

&lt;210&gt; 7452

&lt;211&gt; 542

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7452

His Phe Asn Ser Trp Ser Lys Met Lys Asn Ile Tyr Leu Phe Leu Leu		
1	5	10
Ser Val Val Ile Leu Cys Ser Cys Asn Asp Phe Leu Asp Arg Glu Pro		
20	25	30
Lys Thr Asn Leu Ser Pro Gly Ser Phe Trp Lys Ser Glu Glu Asp Leu		
35	40	45
Arg Leu Ala Ala Asn Val Phe Tyr Gln Asn Met Asn Arg Ser Tyr Thr		
50	55	60
Leu Asp Asn Gln Ser Ala Asp Gly Phe Ala Asn Val Gly Asn Leu Val		
65	70	75
Ser Ser Gly Thr His Ala Pro Gly Asn Thr Asp Gly Ile Trp Thr Thr		
85	90	95
Ala Tyr Lys Gln Ile Arg His Ala Asn Asn Phe Leu Glu Asn Tyr Glu		
100	105	110
Lys Ala Glu Val Ser Glu Ala Thr Lys Asn Arg Tyr Ala Gly Glu Ala		
115	120	125
Arg Phe Phe Arg Ala Tyr Phe Tyr Phe Asn Leu Val Lys Arg Phe Gly		
130	135	140
Asp Val Pro Tyr Val Leu Arg Thr Leu Asp Met Asp Ser Glu Glu Leu		
145	150	155
Met Gly Pro Arg Val Pro Lys Glu Gln Val Ile Ala Gly Ile Ile Glu		
165	170	175
Asp Leu Glu Phe Ala Glu Thr His Ile Pro Leu Lys Ser Lys Leu Pro		
180	185	190
Thr Asp Val Gly Arg Leu Thr Lys Gly Ala Ala Gln Ala Met Leu Ala		
195	200	205
Arg Val Ala Leu Tyr Ile Gly Thr Trp Asn Lys Phe His Gly Ser Gly		
210	215	220
Glu Tyr Lys Ser Tyr Leu Gln Ile Ala Lys Glu Ala Ser Lys Arg Leu		
225	230	235
Ile Asp Ser Lys Glu Tyr Ser Leu Tyr Ala Asp Tyr Arg Asn Leu Phe		
245	250	255
Leu Leu Pro Gly Glu Asp Ser Asn Glu His Ile Leu Ser Phe Arg Tyr		

260	265	270
Ser Ala Glu Ala Asp Thr Tyr Asn Pro Arg Ile Arg Ala		Thr Ile Ala
275	280	285
Asp Leu Ser His Ser Pro Thr Lys Val Leu Ala Asp Ala Phe Leu Cys		
290	295	300
Lys Asp Gly Leu Pro Leu Glu Lys Ser Ala Tyr Arg Val Glu Tyr Leu		
305	310	315
Pro Ala Gly Lys Glu Phe Glu Asn Arg Asp Pro Arg Met Ala Leu Thr		
325	330	335
Ile Trp Lys Pro Gly Asp Pro Phe Leu Gly Lys Pro Phe Val Pro Asn		
340	345	350
Leu Thr Ser Gln Thr Arg Thr Gly Tyr Met Phe Lys Lys Tyr Gly Asp		
355	360	365
Glu Glu Ser Tyr Ser Asn Met Lys Ser Arg Ile Asp Glu Ile Leu Ile		
370	375	380
Arg Tyr Ala Glu Val Leu Leu Thr Phe Ala Glu Ala Ser Phe Glu Leu		
385	390	395
Asp Asp Arg Ile Ser Asp Glu Asp Leu Asn Leu Ser Val Asn Ala Leu		
405	410	415
Arg Asn Arg Phe Glu Gly Asp Pro Asn Arg Leu Pro Asp Leu Thr Asn		
420	425	430
Ala Phe Val Val Glu His Gly Leu Ser Met Arg Asp Glu Ile Arg Arg		
435	440	445
Glu Arg Arg Val Glu Leu Ala Ala Glu Ser Phe Arg Tyr Asp Asp Ile		
450	455	460
Ile Arg Trp Lys Thr Ala Glu Thr Glu Leu Pro Ala Ala Ile Leu Gly		
465	470	475
Ala Lys Phe Asp Pro Glu Leu Tyr Pro Ser Thr Val Pro Gly Lys Asp		
485	490	495
Val Ile Leu Asp Lys Asn Gly Phe Ile Leu Val Gln Asn Ala Glu Ser		
500	505	510
Arg Thr Phe Asp Ser Ser Lys Asp Tyr Leu Phe Pro Leu Pro Leu Arg		
515	520	525
Glu Val Ser Leu Asn Pro Asn Leu Lys Gln Asn Pro Asn Trp		
530	535	540

&lt;210&gt; 7453

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7453

Thr Ile Cys Pro Phe Lys Val Phe Leu Leu Thr Leu Ser Leu Tyr Lys		
1	5	10
Ile Leu Asp Met Ser Ile Glu Ser Phe Asn Leu Leu Leu Val Met		
20	25	30
Gly Leu Met Ala Leu Val Val Phe Ile Ala Leu Tyr Phe Val Arg Ala		
35	40	45
Gly Tyr Gly Met Phe Arg Ser Arg Ser Trp Gly Ile Ser Ala Asn Asn		
50	55	60
Lys Ile Ala Trp Ile Leu Met Glu Ala Pro Val Phe Leu Val Met Gly		
65	70	75
Trp Cys Gly Gly His Ser Asp Arg Arg Phe Leu Pro Val Glu Leu Thr		
85	90	95
Phe Phe Leu Phe Phe Gln Leu His Tyr Phe Pro Lys Gly Phe Cys Phe		
100	105	110
Ser Phe Pro Asp Glu Arg Lys Glu Gln Asp Ala Gly Thr His Ser Phe		
115	120	125
Asp Gly Ser Asp Leu		

130

&lt;210&gt; 7454

&lt;211&gt; 201

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7454

Asn	Thr	Val	Thr	Thr	Met	Ala	Lys	Gly	Asn	Arg	Thr	Val	Pro	Glu	Ile
1					5				10					15	
Asn	Ser	Ser	Ser	Thr	Ala	Asp	Ile	Ala	Phe	Leu	Leu	Ile	Phe	Phe	
					20				25					30	
Leu	Ile	Thr	Thr	Ser	Met	Asp	Thr	Asp	Arg	Gly	Leu	Ala	Arg	Gln	Leu
					35				40					45	
Pro	Pro	Pro	Pro	Glu	Lys	Asp	Gln	Val	Asp	Asn	Asp	Val	Val	Val	Lys
					50				55					60	
Asp	Arg	Asn	Val	Leu	Gln	Ile	Phe	Leu	Asn	Phe	Gln	Asn	Gln	Leu	Met
					65				70					80	
Cys	Gly	Gly	Glu	Ile	Val	Asp	Val	Lys	Gln	Leu	Arg	Glu	Lys	Ala	Lys
					85				90					95	
Glu	Phe	Ile	Ala	Asn	Pro	Tyr	Asn	Asp	Glu	Lys	Leu	Pro	Glu	Lys	His
					100				105					110	
Ala	Lys	Asp	Val	Pro	Phe	Phe	Gly	Asn	Val	Met	Val	Thr	Glu	Asn	His
					115				120					125	
Val	Ile	Ser	Leu	Gln	Ser	Asp	Arg	Gly	Ser	Ser	Tyr	Gln	Ala	Tyr	Phe
					130				135					140	
Asp	Val	Gln	Asn	Glu	Leu	Val	Ala	Ala	Tyr	Asn	Glu	Leu	Arg	Asp	Glu
					145				150					160	
Leu	Ala	Gln	Glu	Lys	Trp	Gln	Lys	Asn	Tyr	Ala	Asp	Leu	Asn	Glu	Asp
					165				170					175	
Gln	Gln	Lys	Ala	Ile	Arg	Asp	Ile	Phe	Pro	Gln	Lys	Ile	Ser	Glu	Ala
					180				185					190	
Glu	Pro	Lys	Gly	Val	Lys	Lys	Asn	Asn							
					195				200						

&lt;210&gt; 7455

&lt;211&gt; 183

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7455

Ser	Ala	Pro	Ala	His	Arg	Trp	Lys	Ser	Cys	Gly	Ile	Ile	Pro	His	Arg
1					5				10					15	
Thr	Met	Ser	Arg	Ile	Ser	Ile	Ile	Ala	Ala	Val	Asp	Ser	Arg	Met	Ala
					20				25					30	
Ile	Gly	Phe	Gln	Asn	Lys	Leu	Leu	Phe	Trp	Leu	Pro	Asn	Asp	Leu	Lys
					35				40					45	
Arg	Phe	Lys	Ala	Leu	Thr	Thr	Gly	Asn	Thr	Ile	Ile	Met	Gly	Arg	Lys
					50				55					60	
Thr	Phe	Glu	Ser	Leu	Pro	Lys	Gly	Ala	Leu	Pro	Asn	Arg	Arg	Asn	Val
					65				70					80	
Val	Leu	Ser	Ser	Asn	Pro	Ala	Ala	Glu	Cys	Pro	Gly	Ala	Glu	Val	Phe
					85				90					95	
Thr	Ser	Leu	Glu	Ala	Ala	Leu	Glu	Ser	Cys	Gln	Ala	Glu	Glu	Lys	Val
					100				105					110	
Tyr	Ile	Ile	Gly	Gly	Ala	Ser	Val	Tyr	Arg	Gln	Ala	Ile	Ser	Leu	Ala
					115				120					125	
Asp	Glu	Leu	Cys	Leu	Thr	Glu	Val	Asn	Asp	Thr	Ala	Pro	Glu	Ala	Asp
					130				135					140	

Ala Phe Phe Pro Ala Val Asp Thr Thr Ile Trp His Glu Lys Ser Arg  
 145 150 155 160  
 Glu Val His Pro Ala Asp Glu Lys His Leu Cys Ser Tyr Ala Phe Val  
 165 170 175  
 Asp Tyr Val Arg Glu Ile Asp  
 180

<210> 7456

<211> 405

<212> PRT

<213> *B.fragilis*

<400> 7456

Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe  
 1 5 10 15  
 Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro  
 20 25 30  
 Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr  
 35 40 45  
 Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly  
 50 55 60  
 Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser  
 65 70 75 80  
 Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala  
 85 90 95  
 Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly  
 100 105 110  
 Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile  
 115 120 125  
 Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp  
 130 135 140  
 Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys  
 145 150 155 160  
 Pro Thr Tyr Lys Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile  
 165 170 175  
 Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val  
 180 185 190  
 Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu  
 195 200 205  
 Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys  
 210 215 220  
 Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr  
 225 230 235 240  
 Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu  
 245 250 255  
 Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Leu Asn  
 260 265 270  
 Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys Tyr Arg Leu Val Ile  
 275 280 285  
 Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp Leu Trp Glu Gly Glu  
 290 295 300  
 Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr Lys Ser Ser Thr Arg  
 305 310 315 320  
 Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe  
 325 330 335  
 Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe  
 340 345 350  
 Met Ala Glu Asn Thr Val Phe Leu Leu Leu Thr Ala Leu Ile His Asn  
 355 360 365

Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu  
 370 375 380  
 Lys Lys Thr Ser Arg Ile Lys Ala Phe Val Phe Arg Phe Ile Ser Val  
 385 390 395 400  
 Pro Ala Ser Gly Ser  
 405

<210> 7457

<211> 291

<212> PRT

<213> B.fragilis

<400> 7457

Asn Lys Ser Ala Ile Val Ser Thr Phe Val Lys Thr Ile Asn Ser His  
 1 5 10 15  
 Asp Met Lys Leu Ile Leu Thr Leu Phe Thr Cys Leu Phe Val Thr Gly  
 20 25 30  
 Cys Ala Tyr Ala Gln Asn Phe Ser Asp Tyr Phe Thr Asn Lys Thr Leu  
 35 40 45  
 Arg Ile Asp Tyr Leu Phe Thr Gly Asn Ala Asp Lys Gln Ser Ile Cys  
 50 55 60  
 Leu Asp Glu Leu Ser Glu Leu Pro Val Trp Ala Gly Arg Arg His His  
 65 70 75 80  
 Leu Pro Glu Leu Pro Leu Glu Gly Asn Gly Gln Ile Val Met Arg Asp  
 85 90 95  
 Val Ala Ser Gly Lys Val Ile Tyr Thr Ser Phe Ser Ser Leu Phe  
 100 105 110  
 Gln Glu Trp Leu Glu Thr Asp Glu Ala Lys Glu Val Thr Lys Gly Phe  
 115 120 125  
 Glu Asn Thr Tyr Leu Leu Pro Tyr Pro Ile Lys Pro Ala Glu Val Glu  
 130 135 140  
 Ile Thr Leu Arg Asn Asn Lys Arg Glu Val Ser Ala Asn Leu Lys His  
 145 150 155 160  
 Val Val Lys Pro Asp Asp Ile Leu Ile His Lys Lys Gly Leu Thr His  
 165 170 175  
 Ile Thr Pro His Lys Tyr Leu Leu Lys Ser Gly Asn Glu Glu Gln Cys  
 180 185 190  
 Ile Asp Val Ala Ile Leu Ala Glu Gly Tyr Thr Ser Glu Met Glu  
 195 200 205  
 Thr Phe Tyr Lys Asp Ala Ala Ile Ala Cys Glu Ala Leu Phe Ser His  
 210 215 220  
 Glu Pro Phe Gln Ser Met Lys Asn Arg Phe Asn Met Val Val Val Ala  
 225 230 235 240  
 Ser Leu Ser Ala Asp Ser Gly Val Ser Ala Pro Lys Gln Gly Ala Trp  
 245 250 255  
 Lys His Ser Ala Phe Arg Phe Pro Leu Arg Tyr Phe Leu Phe Arg Pro  
 260 265 270  
 Leu Ser Asp Tyr Gln Pro Gly Lys Ser Asn Lys Arg Arg Ile Gly Arg  
 275 280 285  
 His Pro Leu  
 290

<210> 7458

<211> 88

<212> PRT

<213> B.fragilis

<400> 7458

Ser Met Ser Ala Gly Leu Val Ser Arg Glu Lys Ile Asp Glu Val Leu

1	5	10	15												
Asn	Glu	Gly	Phe	Glu	Ala	Val	Gln	Met	Ala	Arg	Ala	Leu	Leu	Asn	Glu
			20					25						30	
Pro	Gly	Phe	Val	Asn	Arg	Met	Arg	Arg	Glu	Glu	Lys	Ala	Arg	Cys	Asn
			35				40				45				
Cys	Gly	His	Ser	Asn	Tyr	Cys	Ile	Gly	Arg	Met	Tyr	Thr	Ile	Glu	Met
			50				55				60				
Ala	Cys	His	Arg	His	Leu	Thr	Glu	Glu	Leu	Pro	Leu	Cys	Leu	Lys	Lys
			65			70			75				80		
Glu	Ile	Glu	Gln	Leu	Glu	Asn	Lys								
			85												

&lt;210&gt; 7459

&lt;211&gt; 132

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7459

1	5	10	15												
Leu	His	Arg	Met	Ser	Pro	Pro	Met	Phe	Leu	Pro	Asn	Thr	Ala	Gly	Ser
			20				25					30			
Pro	Tyr	Thr	Ser	Ser	Lys	Ser	Ser	Cys	Asn	Trp	Lys	Ala	Thr	Pro	Ile
	35				40						45				
Cys	Met	Pro	Lys	Ser	Tyr	Arg	Phe	Ser	Ala	Ser	Ser	Gly	Glu	Ala	Pro
	50					55					60				
Pro	Lys	Ile	Ala	Pro	Ile	Phe	Lys	Leu	Ala	Ala	Asn	Lys	Thr	Ala	Val
	65				70			75				80			
Phe	Lys	Arg	Ile	Ile	Ser	Arg	Tyr	Ser	Ser	Ser	Phe	Thr	Ser	Ser	Arg
					85			90				95			
Asp	Ser	Lys	Phe	Ile	Ser	Ile	Cys	Cys	Pro	Ser	Gln	Ile	Ser	Ser	Ala
				100			105					110			
Val	Arg	Leu	Asn	Lys	Ser	Ile	Thr	Ser	Leu	Arg	Cys	Ser	Asp	Glu	Leu
				115			120					125			
Ala	Ala	Ile	Tyr												
			130												

&lt;210&gt; 7460

&lt;211&gt; 271

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7460

1	5	10	15												
Arg	Val	Leu	Thr	Glu	Gly	Ile	Glu	Lys	Gly	Asp	Arg	Thr	Gly	Thr	Gly
			20				25				30				
Thr	Ile	Ser	Val	Phe	Gly	His	Gln	Met	Arg	Phe	Asn	Leu	Asp	Glu	Gly
	35				40				45						
Phe	Pro	Cys	Leu	Thr	Thr	Lys	Lys	Leu	His	Leu	Lys	Ser	Ile	Ile	Tyr
	50					55					60				
Glu	Leu	Leu	Trp	Phe	Leu	Lys	Gly	Asp	Thr	Asn	Val	Lys	Tyr	Leu	Gln
	65				70			75				80			
Asp	His	Gly	Val	Arg	Ile	Trp	Asn	Glu	Trp	Ala	Asp	Gly	Thr	Gly	Asp
				85				90				95			
Leu	Gly	His	Val	Tyr	Gly	Tyr	Gln	Trp	Arg	Ser	Trp	Pro	Thr	Tyr	Asp
			100				105					110			
Gly	Gly	Phe	Ile	Asp	Gln	Ile	Ser	Glu	Ala	Val	Asp	Ala	Ile	Lys	His
			115				120				125				

Asn Pro Asp Ser Arg Arg Ile Ile Val Ser Ala Trp Asn Val Gly Asp  
 130 135 140  
 Leu Asp His Met Asn Leu Pro Pro Cys His Ala Phe Phe Gln Phe Tyr  
 145 150 155 160  
 Val Ala Asn Gly Arg Leu Ser Leu Gln Leu Tyr Gln Arg Ser Ala Asp  
 165 170 175  
 Ile Phe Leu Gly Val Pro Phe Asn Ile Ala Ser Tyr Ala Leu Leu  
 180 185 190  
 Gln Met Met Ala Gln Val Thr Gly Leu Gln Ala Gly Asp Phe Ile His  
 195 200 205  
 Thr Leu Gly Asp Ala His Ile Tyr Leu Asn His Leu Glu Gln Val Lys  
 210 215 220  
 Leu Gln Leu Ser Arg Glu Pro Arg Pro Leu Pro Gln Met Lys Ile Asn  
 225 230 235 240  
 Pro Asp Val Lys Asn Ile Phe Asp Phe Gln Phe Glu Asp Phe Glu Leu  
 245 250 255  
 Val Asn Tyr Asp Pro His Pro His Ile Ala Gly Lys Val Ala Val  
 260 265 270

&lt;210&gt; 7461

&lt;211&gt; 190

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7461

Ala Met Gly Gln Glu Asn Met Leu Ile Tyr Leu Gln Val Val Tyr His  
 1 5 10 15  
 Ser Lys Asp Ser Thr Ile Arg Ile Phe Asp Asn Gly Ser Tyr Lys His  
 20 25 30  
 Ile Ile Tyr Asn Lys Gln Gly Lys Phe Leu Arg Glu Ile Ser Leu Ala  
 35 40 45  
 Asp Ser Glu Phe Asn Tyr Leu Leu His Met Gln Ser Asp Thr Tyr Phe  
 50 55 60  
 Phe Arg Gly Ser Phe Ser Lys Gly Lys Ser Glu Ile Ile Val Thr Asp  
 65 70 75 80  
 Thr Thr Leu Arg Val Lys Phe Pro Ile Leu Pro Phe Asp Ser Thr Ala  
 85 90 95  
 Asp Tyr Ile Thr Arg Gly Ala Ile Met Leu Asn Thr Thr Gly Glu Glu  
 100 105 110  
 Cys Ala Pro Asp Ile Cys Leu Phe Asn His Ile Tyr Ser Asp Ser Val  
 115 120 125  
 Phe Leu Leu Thr Pro Asp Gly Leu Lys Leu Asp Phe Ile Leu Arg Lys  
 130 135 140  
 Gly Lys Tyr Ala Pro Ser Leu Glu Asp Val Lys Gln Phe Met Lys Trp  
 145 150 155 160  
 Asn Gln Tyr Asp Pro Phe Ile Lys Gly Leu Phe Ile Leu Lys Ser Ala  
 165 170 175  
 Thr Ile Ile Gln Tyr Thr Ile Lys Gly Arg Phe Met Ser Arg  
 180 185 190

&lt;210&gt; 7462

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7462

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe  
 1 5 10 15  
 Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met

20	25	30
Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His	Leu Leu Glu	
35	40	45
Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His	Pro Leu	
50	55	60
Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp	Ile Ser	
65	70	75
Ser Ala Arg		

&lt;210&gt; 7463

&lt;211&gt; 526

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7463

Trp Lys Leu Leu Phe Phe Trp Leu Trp Asp Gly Val Val Gly Ile Pro			
1	5	10	15
Thr Asp Val Phe Tyr Leu Ser Asn Ser Leu Ser Phe Phe Phe Ser Asn			
20	25	30	
Tyr Ile Thr Ser Gln Arg Ala Phe Val Phe Pro Phe Leu Met Lys Gly			
35	40	45	
Lys Ser Lys Met Pro Val Leu Ile Leu Leu Met Gly Val Ile Phe Asn			
50	55	60	
Ile Leu Asn Gly Leu Met Gln Gly Glu Trp Ile Phe Tyr Leu Ala Pro			
65	70	75	80
Ser Asp Tyr Tyr Thr Pro Gly Trp Leu Leu Thr Pro Cys Phe Trp Ile			
85	90	95	
Gly Thr Leu Leu Phe Phe Ala Gly Met Gly Ile Asn Trp His Ser Asp			
100	105	110	
Ser Val Ile Arg His Leu Arg Ala Pro Gly Asp Thr Arg His Tyr Leu			
115	120	125	
Pro Gln Arg Gly Met Tyr Arg Tyr Val Thr Ser Ala Asn Tyr Leu Gly			
130	135	140	
Glu Ile Val Glu Trp Val Gly Trp Ala Ile Leu Thr Trp Ser Leu Ser			
145	150	155	160
Gly Cys Ile Phe Ala Trp Trp Thr Val Ala Asn Leu Val Pro Arg Ala			
165	170	175	
Asp Ala Ile Trp His Arg Tyr Arg Glu Glu Phe Gly Thr Gln Arg Arg			
180	185	190	
Ile Glu Glu Thr Asn Phe Ser Phe Leu Ile Leu Lys Tyr Thr Val Leu			
195	200	205	
Met Asn Thr His Ser Ala Ser Lys Leu Phe Thr Pro Val Thr Ile Gly			
210	215	220	
Pro Leu Thr Leu Arg Asn Arg Thr Ile Arg Ser Ala Ala Phe Glu Gly			
225	230	235	240
Met Cys Pro Gly Asn Ala Pro Ser Pro Met Leu Leu Asp Tyr His Arg			
245	250	255	
Ser Val Ala Ala Gly Gly Val Gly Met Thr Thr Ile Ala Tyr Ala Ser			
260	265	270	
Val Thr Arg Ser Gly Leu Ser Phe Pro Arg Gln Leu Trp Leu Arg Pro			
275	280	285	
Glu Ile Ile Pro Gly Leu Arg Glu Val Thr Ala Ala Ile His Ala Glu			
290	295	300	
Gly Ala Ala Ala Ser Ile Gln Ile Gly His Cys Gly Asn Met Ser His			
305	310	315	320
Lys Ser Ile Cys Gly Val Thr Pro Ile Ser Ala Ser Ser Gly Phe Asn			
325	330	335	
Ile Asn Ser Pro Thr Trp Val Arg Gly Met Lys Arg Glu Glu Leu Pro			

340	345	350
Glu Met Ala Lys Ala Tyr Gly Arg Ala Val Cys Leu Ala Arg Glu Ala		
355	360	365
Gly Phe Asp Ala Val Gln Val His Ala Gly His Gly Tyr Leu Ile Ser		
370	375	380
Gln Phe Leu Ser Pro Tyr Thr Asn His Arg Lys Asp Glu Tyr Gly Gly		
385	390	395
Ser Leu Glu Asn Arg Met Arg Phe Met Thr Met Val Met Asn Glu Val		
405	410	415
Met Lys Ala Ala Gly Lys Asp Leu Ala Val Phe Val Lys Met Asn Met		
420	425	430
Arg Asp Gly Phe Arg Gly Gly Met Glu Ile Glu Glu Thr Leu Glu Val		
435	440	445
Ala Arg Arg Leu Glu Ser Leu Gly Ala His Ala Leu Val Leu Ser Gly		
450	455	460
Gly Phe Val Ser Lys Ala Pro Met Tyr Val Met Arg Gly Ala Met Pro		
465	470	475
Ile Lys Thr Leu Thr His Tyr Met Asp Cys Trp Trp Leu Lys Phe Gly		
485	490	495
Val Lys Leu Ala Gly Arg Met Met Ile Pro Thr Val Pro Phe Lys Glu		
500	505	510
Ala Tyr Phe Leu Glu Asp Val Ser Glu Val Ser Phe Gly Asn		
515	520	525

&lt;210&gt; 7464

&lt;211&gt; 281

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7464

Leu Ile Leu Lys Ile Arg His Thr Met Lys Lys Leu Phe Ala Ile Val		
1	5	10
Ala Val Met Gly Val Leu Thr Phe Gly Ser Thr Gln Leu Val Gln Ala		
20	25	30
Gln Asp Ala Ala Ala Thr Glu Gln Ala Ala Pro Ala Ala Asp Lys Pro		
35	40	45
Val Ala Asp Ala Val Ala Glu Ala Ala Glu Ala Ser Ala Pro Leu Ala		
50	55	60
Gly Ala Glu Glu Gly Gly Ile His Lys Glu Ile Lys Val Lys Phe Ile		
65	70	75
Glu Gly Thr Ala Ser Phe Met Ser Leu Val Ala Ile Ala Leu Val Ile		
85	90	95
Gly Leu Ala Phe Cys Ile Glu Arg Ile Ile Tyr Leu Ser Leu Ala Glu		
100	105	110
Ile Asn Thr Lys Lys Phe Met Ser Ser Ile Glu Ala Ala Leu Glu Lys		
115	120	125
Gly Asp Val Glu Ala Ala Lys Asp Ile Ala Arg Asn Thr Arg Gly Pro		
130	135	140
Val Ala Ser Ile Tyr Tyr Gln Gly Leu Met Arg Ile Asp Gln Gly Ile		
145	150	155
Asp Val Val Glu Lys Ser Val Val Ser Tyr Gly Gly Val Gln Ala Gly		
165	170	175
Tyr Leu Glu Lys Gly Cys Ser Trp Ile Thr Leu Phe Ile Ala Met Ala		
180	185	190
Pro Ser Leu Gly Phe Leu Gly Thr Val Val Gly Met Val Met Ala Phe		
195	200	205
Asp Lys Ile Gln Gln Gln Gly Asp Ile Ser Pro Thr Val Val Ala Gly		
210	215	220
Gly Met Lys Val Ala Leu Ile Thr Thr Ile Phe Gly Leu Val Val Ala		

225	230	235	240
Leu Ile Leu Gln Val Phe Tyr Asn Tyr Ile	Leu Ala Lys Ile Glu Ala		
245	250	255	
Leu Thr Ser Glu Met Glu Asp Ser Ser Ile	Ser Leu Leu Asp Met Val		
260	265	270	
Ile Lys Tyr Asn Leu Lys Tyr Lys Lys			
275	280		

&lt;210&gt; 7465

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7465

Leu Met Gly Lys Phe Asn Lys Thr Gly Lys Arg Gly Met Pro Thr Leu			
1	5	10	15
Asn Thr Ser Ser Leu Pro Asp Leu Ile Phe Thr Leu Leu Phe Phe Phe			
20	25	30	
Met Ile Val Thr Thr Met Arg Glu Val Ser Leu Lys Val Glu Phe Lys			
35	40	45	
Ile Pro Gln Gly Thr Glu Leu Glu Lys Leu Glu Lys Lys Ser Leu Val			
50	55	60	
Thr Phe Ile Tyr Val Gly Lys Pro Thr Ala Glu Phe Arg Lys Lys Leu			
65	70	75	80
Gly Ser Glu Ser Arg Ile Gln Leu Asn Asp Ala Tyr Ala Glu Val Asp			
85	90	95	
Glu Ile Gln Ala Tyr Val Thr Asn Glu Arg Ser Ser Met Lys Glu Glu			
100	105	110	
Asp Gln Pro Phe Met Thr Val Ser Leu Lys Ile Asp Gln Asp Thr Lys			
115	120	125	
Met Gly Ile Val Thr Asp Ile Lys Gln Ala Leu Arg Gln Ala Tyr Ala			
130	135	140	
Leu Lys Ile Asn Tyr Ser Ala Arg Ala Arg Glu			
145	150	155	

&lt;210&gt; 7466

&lt;211&gt; 239

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7466

Lys Pro Glu Glu His Gln Phe Leu Tyr Thr Asn Phe Met Glu Val Lys			
1	5	10	15
Lys Ser Pro Lys Ala Asp Leu Glu Gly Lys Lys Thr Gln Trp Leu Leu			
20	25	30	
Ile Gly Tyr Val Val Leu Ala Phe Ile Phe Val Ala Phe Glu Trp			
35	40	45	
Thr Glu Arg Asp Ile Lys Ile Asp Thr Ser Gln Ala Val Ala Gln Ile			
50	55	60	
Glu Phe Glu Glu Glu Met Ile Pro Ile Thr Gln Gln Glu Glu Lys Pro			
65	70	75	80
Ala Pro Pro Pro Val Glu Val Pro Lys Gln Ala Glu Ile Leu Lys Ile			
85	90	95	
Val Asp Asp Glu Ala Asp Val Gln Glu Thr Ala Ile Ala Ser Thr Glu			
100	105	110	
Asp Thr Gly Gln Lys Val Glu Val Lys Tyr Val Pro Val Glu Val Lys			
115	120	125	
Glu Glu Glu Pro Ser Glu Gln Glu Ile Phe Glu Val Val Glu Asn Ala			
130	135	140	

Pro Glu Phe Pro Gly Gly Met Pro Ala Cys Leu Gln Phe Leu Tyr Lys  
 145 150 155 160  
 Asn Ile Lys Tyr Pro Pro Ile Ala Gln Glu Asn Gly Thr Gln Gly Gln  
 165 170 175  
 Val Val Leu Gln Phe Val Val Glu Arg Asp Gly Ser Ile Gly Asp Ile  
 180 185 190  
 Lys Val Val Lys Ser Val Asp Pro Tyr Leu Asp Lys Glu Ala Leu Arg  
 195 200 205  
 Val Val Lys Thr Met Pro Lys Trp Lys Pro Gly Met Gln Arg Gly Lys  
 210 215 220  
 Pro Val Arg Cys Arg Phe Thr Leu Pro Val Arg Phe Arg Leu Gln  
 225 230 235

&lt;210&gt; 7467

&lt;211&gt; 290

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7467

Met Met Glu Arg Lys Leu Ala Val Ile Thr Gly Ala Asp Gly Gly Met  
 1 5 10 15  
 Gly Thr Glu Ile Thr Arg Ala Val Ala Cys Ala Gly Tyr Asp Val Ile  
 20 25 30  
 Met Ala Cys Tyr Ser Ser Ser Lys Ala Glu Thr Lys Cys Arg Glu Leu  
 35 40 45  
 Val Lys Glu Thr Gly Asn Glu Lys Ile Glu Val Trp Gln Ile Asp Leu  
 50 55 60  
 Ala Ser Leu Ser Ser Val Arg Ala Phe Ala Asp Arg Met Leu Arg Gln  
 65 70 75 80  
 Lys Thr Pro Val Ala Leu Leu Met Asn Asn Ala Gly Thr Met Glu Thr  
 85 90 95  
 Gly Leu His Ile Thr Glu Asp Gly Leu Glu Arg Thr Val Ser Val Asn  
 100 105 110  
 Tyr Val Gly Pro Tyr Leu Leu Thr Arg Leu Leu Leu Pro Leu Met Gly  
 115 120 125  
 Glu Gly Thr Arg Ile Val Asn Met Val Ser Cys Thr Tyr Ala Ile Gly  
 130 135 140  
 Lys Leu Asp Phe Pro Asp Phe Phe Leu Arg Gly Arg Lys Gly Ser Phe  
 145 150 155 160  
 Trp Arg Ile Pro Ile Tyr Ser Asn Thr Lys Leu Ala Leu Leu Phe  
 165 170 175  
 Thr Ile Glu Leu Ala Glu Arg Leu Arg Ala Arg Gly Ile Thr Val Asn  
 180 185 190  
 Ala Ala Asp Pro Gly Ile Val Ser Thr Asn Ile Ile Arg Met Asp Gln  
 195 200 205  
 Trp Phe Asp Pro Leu Thr Asp Ile Phe Phe Arg Pro Phe Ile Arg Thr  
 210 215 220  
 Pro Leu Gln Gly Ala Ala Thr Ala Ile Gly Leu Leu Leu Asp Ala Glu  
 225 230 235 240  
 Val Glu Gly Arg Thr Ala Thr Phe Asn Leu Asn Asn His Cys Arg Leu  
 245 250 255  
 Leu Pro Glu Lys Tyr Thr Arg Pro Asp Arg Arg Ala Gln Leu Trp Glu  
 260 265 270  
 Glu Thr Glu Arg Ile Leu Ser Glu Lys Gly Phe Leu Pro Ile Asn Asp  
 275 280 285  
 Lys Arg  
 290

&lt;210&gt; 7468

<211> 69  
<212> PRT  
<213> B.fragilis

<400> 7468

Leu	Lys	Thr	Leu	Val	Val	Arg	Ile	Phe	Phe	Val	Ile	Cys	Thr	Arg	Phe
1				5					10					15	
Glu	Glu	Ser	Ala	Asn	Trp	Arg	Asp	Ala	Arg	Val	Val	Glu	Glu	Ala	Arg
					20				25					30	
Leu	Glu	Ser	Val	Tyr	Thr	Pro	Lys	Val	Tyr	Arg	Gly	Phe	Glu	Ser	Arg
					35			40				45			
Ser	Leu	Arg	Arg	Lys	Tyr	Lys	Gln	Glu	Thr	Ile	Ser	Lys	Tyr	Asn	Asn
					50			55				60			
Asn	Asn	Leu	Ile	Asn											
		65													

<210> 7469  
<211> 158  
<212> PRT  
<213> B.fragilis

<400> 7469

Ser	Glu	Met	Ser	Lys	Leu	Thr	Tyr	Lys	Val	Ser	Tyr	Tyr	Val	Leu	Tyr
1				5					10					15	
Ala	Met	Phe	Ala	Leu	Ile	Val	Ile	Val	Leu	Gly	Leu	Phe	Tyr	Phe	Gly
					20				25				30		
Gly	Gln	Met	Glu	Thr	Pro	Ile	Val	Tyr	Asp	Met	Asp	Asn	Pro	Ala	Asn
					35			40			45				
Thr	Asp	Ala	Leu	Leu	Tyr	Leu	Met	Tyr	Gly	Leu	Phe	Gly	Ile	Ala	Val
					50			55			60				
Val	Ala	Thr	Val	Val	Ala	Ala	Ile	Phe	Gln	Phe	Gly	Ser	Ala	Leu	Lys
					65			70			75			80	
Asp	Asn	Pro	Lys	Gly	Ala	Ile	Arg	Ser	Leu	Leu	Gly	Leu	Ile	Leu	Leu
					85				90				95		
Val	Leu	Val	Leu	Val	Val	Ala	Trp	Ser	Met	Gly	Ser	Gly	Glu	Thr	Leu
					100				105				110		
Thr	Ile	Gln	Gly	Tyr	Glu	Gly	Thr	Asp	Asn	Val	Pro	Phe	Trp	Leu	Lys
					115			120				125			
Leu	Thr	Asp	Met	Phe	Leu	Tyr	Ser	Ile	Tyr	Phe	Leu	Met	Leu	Val	Thr
					130			135				140			
Val	Leu	Ala	Ile	Ile	Gly	Ser	Ser	Ile	Lys	Lys	Lys	Leu	Ser		
					145			150				155			

<210> 7470  
<211> 244  
<212> PRT  
<213> B.fragilis

<400> 7470

Cys	Thr	Ala	Arg	Cys	Asn	Ile	Glu	Met	Pro	Tyr	Arg	Arg	Leu	Pro	Asn
1					5			10					15		
Thr	Asp	Gln	Ala	Arg	Ile	Arg	Ala	Leu	Lys	Thr	Ala	Val	Val	Lys	Gly
					20			25				30			
Asp	Met	Cys	Asp	Val	Tyr	Asp	Leu	Pro	Val	Ser	Leu	Lys	Thr	Leu	Gly
					35			40			45				
Glu	Ala	Arg	Ile	Phe	Leu	Ser	Lys	Phe	Glu	Thr	Ala	His	Ser	Tyr	Tyr
					50			55			60				
Val	His	Cys	Tyr	Gly	Glu	Gln	Ser	Arg	Asn	Ser	Lys	Lys	His	Gln	Ala
					65			70			75		80		

Asn Val Lys Thr Ala Arg Leu Tyr Ile Ser His Phe Ile Gln Val Leu  
       85                  90                  95  
 Asn Leu Ala Val Ile Arg Met Glu Ile Lys Glu Ser His Lys Ala Leu  
       100                105                110  
 Tyr Gly Leu Pro Val Asp Asn Phe Ser Val Pro Asp Leu Ser Ser Glu  
       115                120                125  
 Ala Ser Leu Ala Glu Trp Gly Gln Lys Ile Ile Glu Gly Glu Arg Lys  
       130                135                140  
 Arg Thr Ser Gln Gly Gly Ile Pro Ile Tyr Asn Pro Thr Ile Ala Lys  
       145                150                155                160  
 Val Lys Val His Tyr Asp Ile Phe Met Glu Gly Tyr Glu Lys Gln Lys  
       165                170                175  
 Ser Leu Gln Ser Leu Thr Asn Arg Ser Leu Glu Gln Leu Ala Ser Met  
       180                185                190  
 Arg Val Gln Ala Asp Arg Leu Ile Leu Asp Ile Trp Asn Gln Val Glu  
       195                200                205  
 Ala Lys Phe Gln Asp Val Ser Pro Asn Glu Lys Arg Leu Glu Lys Cys  
       210                215                220  
 Arg Asp Tyr Gly Leu Ile Tyr Tyr Tyr Arg Thr Gly Glu Lys Gln Asn  
       225                230                235                240  
 Lys Glu Ile Leu

<210> 7471  
 <211> 347  
 <212> PRT  
 <213> B.fragilis

<400> 7471  
 Tyr Lys Lys Arg Gly Cys Arg Pro Ser Ser Leu Phe Ser Phe Asn Leu  
   1              5                  10                  15  
 Ser Phe Tyr Asn Leu Phe Ile Met Tyr Thr Ala Phe Gln Leu Leu Asp  
   20              25                  30  
 Lys Ile Asn Ser His Ile Ser Asp Ile Arg Phe Thr Arg Thr Pro Ala  
   35              40                  45  
 Gly Leu Tyr Asp Pro Ile Lys Tyr Val Leu Ser Met Gly Gly Lys Arg  
   50              55                  60  
 Ile Arg Pro Val Leu Met Leu Met Ala Tyr Asn Leu Tyr Lys Glu Asp  
   65              70                  75                80  
 Val Ser Ser Ile Tyr Asp Pro Ala Thr Ala Ile Glu Val Tyr His Asn  
   85              90                  95  
 Tyr Thr Leu Leu His Asp Asp Leu Met Asp Arg Ala Asp Met Arg Arg  
   100            105                110  
 Gly Lys Thr Thr Val His Lys Val Trp Asn Asp Asn Thr Ala Ile Leu  
   115            120                125  
 Ser Gly Asp Ala Met Leu Val Leu Ala Tyr Gln Tyr Met Ala Ala Ser  
   130            135                140  
 Ser Ser Glu His Leu Lys Glu Val Met Asp Leu Phe Ser Leu Thr Ala  
   145            150                155                160  
 Leu Glu Ile Cys Glu Gly Gln Gln Met Asp Met Asn Phe Glu Ser Arg  
   165            170                175  
 Glu Asp Val Lys Glu Glu Glu Tyr Leu Glu Met Ile Arg Leu Lys Thr  
   180            185                190  
 Ala Val Leu Leu Ala Ala Ser Leu Lys Ile Gly Ala Ile Leu Gly Gly  
   195            200                205  
 Ala Ser Pro Glu Asp Ala Glu Asn Leu Tyr Asp Phe Gly Met Gln Ile  
   210            215                220  
 Gly Val Ala Phe Gln Leu Gln Asp Asp Leu Leu Asp Val Tyr Gly Asp  
   225            230                235                240

Pro Ala Val Phe Gly Lys Asn Ile Gly Gly Asp Ile Leu Cys Asn Lys  
                  245                 250                 255  
 Lys Thr Tyr Met Leu Ile Lys Ala Leu Glu Arg Ala Asp Arg Asp Gln  
                  260                 265                 270  
 Leu Glu Gly Leu Asn His Trp Leu Ser Thr Thr Ser Phe Cys Pro Glu  
                  275                 280                 285  
 Glu Lys Ile Ser Ala Val Thr Glu Leu Tyr Thr Gln Ile Gly Ile Lys  
                  290                 295                 300  
 Ala Val Cys Glu Asn Lys Met Arg Glu Tyr Tyr Thr Arg Ala Met Thr  
                  305                 310                 315                 320  
 Ser Leu Gly Ala Val Ser Val Ile Glu Asp Lys Lys Ser Glu Leu Lys  
                  325                 330                 335  
 Lys Leu Met Lys His Leu Met Tyr Arg Glu Met  
                  340                 345

<210> 7472

<211> 457

<212> PRT

<213> B.fragilis

<400> 7472

Lys Ile Asp Gly Arg Ser Asp Pro Arg Glu Thr Asn Lys Glu Tyr Leu  
 1              5                 10                 15  
 Ile Tyr Lys Leu Ser Glu Ala Met Lys Asp Cys Thr Arg Ile Asp Asn  
                  20                 25                 30  
 Glu Leu Phe Pro Lys Phe Asp Val Lys Arg Gly Leu Arg Asn Glu Asp  
                  35                 40                 45  
 Gly Thr Gly Val Leu Val Gly Leu Thr Lys Ile Gly Asn Val Val Gly  
                  50                 55                 60  
 Tyr Glu Arg Ile Pro Gly Gly Leu Lys Pro Ile Pro Gly Lys Leu  
                  65                 70                 75                 80  
 Phe Tyr Arg Gly Tyr Asp Leu Glu Asp Leu Ala His Ala Ile Leu Lys  
                  85                 90                 95  
 Glu Lys Arg Phe Gly Phe Glu Glu Val Ala Tyr Leu Leu Ser Gly  
                  100                105                110  
 Ser Leu Pro Asp Lys Glu Glu Leu Ala Ser Phe Arg Glu Leu Ile Asn  
                  115                120                125  
 Asp Asn Met Pro Leu Glu Gln Lys Thr Lys Met Asn Ile Ile Glu Leu  
                  130                135                140  
 Glu Gly Asn Asn Ile Met Asn Ile Leu Ala Arg Ser Val Leu Glu Met  
                  145                150                155                 160  
 Tyr Arg Phe Asp Pro Asn Pro Asp Asp Thr Ser Arg Asp Asn Leu Met  
                  165                170                175  
 Arg Gln Ser Ile Asp Leu Ile Ser Lys Phe Pro Thr Ile Ile Ala Tyr  
                  180                185                190  
 Ala Phe Asn Met Leu Arg His Ala Thr Phe Gly Arg Ser Leu His Ile  
                  195                200                205  
 Arg His Pro Gln Glu Asn Leu Ser Ile Ala Glu Asn Phe Leu Tyr Met  
                  210                215                220  
 Leu Lys Arg Asp Tyr Thr Glu Leu Asp Ala Arg Thr Leu Asp Leu Leu  
                  225                230                235                 240  
 Leu Val Leu Gln Ala Glu His Gly Gly Asn Asn Ser Thr Phe Thr  
                  245                250                255  
 Val Arg Val Thr Ser Ser Thr Gly Thr Asp Thr Tyr Ser Ala Ile Ala  
                  260                265                270  
 Ala Gly Ile Gly Ser Leu Lys Gly Pro Leu His Gly Gly Ala Asn Ile  
                  275                280                285  
 Gln Val Ala Asp Met Phe His His Leu Gln Glu Asn Ile Gln Asp Trp  
                  290                295                300

Thr Asn Val Asp Glu Ile Asp Thr Tyr Phe Thr Arg Met Leu Asn Lys  
 305 310 315 320  
 Glu Val Tyr Asn Lys Thr Gly Leu Ile Tyr Gly Ile Gly His Ala Val  
 325 330 335  
 Tyr Thr Ile Ser Asp Pro Arg Ala Val Leu Leu Lys Glu Leu Ala Arg  
 340 345 350  
 Asp Leu Ala His Glu Lys Gly Arg Glu Arg Glu Phe Ala Phe Leu Glu  
 355 360 365  
 Leu Leu Glu Glu Arg Ala Ile Ala Thr Phe Gly Lys Ile Lys Asn Asn  
 370 375 380  
 Gly Lys Thr Val Ser Ser Asn Val Asp Phe Tyr Ser Gly Phe Val Tyr  
 385 390 395 400  
 Glu Met Ile Gly Leu Pro Gln Glu Ile Tyr Thr Pro Leu Phe Ala Met  
 405 410 415  
 Ala Arg Ile Val Gly Trp Cys Ala His Arg Asn Glu Glu Leu Asn Phe  
 420 425 430  
 Glu Gly Lys Arg Ile Ile Arg Pro Ala Tyr Lys Asn Val Leu Glu Glu  
 435 440 445  
 Glu Gln Tyr Val Pro Leu Lys Lys Arg  
 450 455

&lt;210&gt; 7473

&lt;211&gt; 160

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7473

Phe Lys Met Gly His His Gln Leu Asp Thr Leu Asp Glu Gln Ile Leu  
 1 5 10 15  
 Lys Leu Ile Ala Asp Asn Ala Arg Ile Pro Phe Leu Glu Val Ala Arg  
 20 25 30  
 Ala Cys Asn Val Ser Gly Ala Ala Ile His Gln Arg Ile Gln Lys Leu  
 35 40 45  
 Thr Asn Leu Gly Ile Leu Lys Gly Ser Glu Tyr Val Ile Asp Pro Glu  
 50 55 60  
 Lys Ile Gly Tyr Glu Thr Cys Ala Tyr Ile Gly Ile Tyr Leu Lys Asp  
 65 70 75 80  
 Pro Glu Ser Phe Asp Ser Val Thr Lys Ala Leu Glu Ala Ile Pro Glu  
 85 90 95  
 Val Val Glu Cys His Phe Thr Thr Gly Lys Tyr Asp Met Phe Ile Lys  
 100 105 110  
 Ile Tyr Ala Arg Asn Asn His His Leu Leu Ser Val Ile His Asp Lys  
 115 120 125  
 Leu Gln Pro Leu Gly Leu Ala Arg Thr Glu Thr Leu Ile Ser Phe His  
 130 135 140  
 Glu Ala Ile Lys Arg Gln Met Pro Ile Met Val Asp Thr Asp Glu Asp  
 145 150 155 160

&lt;210&gt; 7474

&lt;211&gt; 317

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7474

Gly Val Ala Ile Leu Lys Lys Gly Cys Ser His Pro Val Ser Met Ala  
 1 5 10 15  
 Thr Pro Phe Leu Asn His Thr Phe Val Ile Ile Met Val Lys Val Glu  
 20 25 30  
 Ile Asp Glu Gly Ser Gly Phe Cys Phe Gly Val Val Thr Ala Ile His

35	40	45
Lys Ala Glu Glu Glu Leu Ala Lys Gly Val Thr Leu Tyr Cys Leu Gly		
50	55	60
Asp Ile Val His Asn Ser Arg Glu Val Glu Arg Leu Lys Glu Met Gly		
65	70	75
Leu Ile Thr Ile Asn His Glu Glu Phe Lys Gln Leu His Asn Ala Lys		
85	90	95
Val Leu Leu Arg Ala His Gly Glu Pro Pro Glu Thr Tyr Ile Ile Ala		
100	105	110
Lys Glu Asn Asn Ile Glu Ile Ile Asp Ala Thr Cys Pro Val Val Leu		
.115	120	125
Arg Leu Gln Lys Arg Ile Lys Gln Glu Tyr Met Gln Glu Asp Leu Asp		
130	135	140.
Glu Lys Gln Ile Val Ile Tyr Gly Lys Asn Gly His Ala Glu Val Leu		
145	150	155
Gly Leu Val Gly Gln Thr Thr Gly Lys Ala Ile Val Ile Glu Lys Leu		
165	170	175
Asp Glu Ala Arg Arg Leu Asp Phe Ser Lys Ser Ile Arg Leu Tyr Ser		
180	185	190
Gln Thr Thr Lys Ser Leu Asp Glu Phe Trp Glu Ile Val Glu Tyr Ile		
195	200	205
Lys Glu His Ile Ser Pro Asp Val Thr Phe Glu Tyr Tyr Asp Thr Ile		
210	215	220
Cys Arg Gln Val Ala Asn Arg Met Pro Asn Leu Arg Lys Phe Ala Ala		
225	230	235
Ser His Asp Leu Ile Phe Phe Val Ser Gly Lys Lys Ser Ser Asn Gly		
245	250	255
Lys Met Leu Phe Glu Glu Cys Lys Lys Val Asn Pro Asn Ser His Leu		
260	265	270
Ile Asp Ser Ala Asp Glu Ile Asp Asp Ser Leu Leu Pro Gly Val Asn		
275	280	285
Ser Ile Gly Val Cys Gly Ala Thr Ser Thr Pro Lys Trp Leu Met Glu		
290	295	300
Glu Ile Ser Glu Ala Ile Lys Ala Gln Ile Lys Arg Gln		
305	310	315

&lt;210&gt; 7475

&lt;211&gt; 278

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7475

Tyr Ile Lys Ile Gly Val Leu Leu Val Phe Lys Leu Leu Leu Leu		
1	5	10
Trp His Lys Tyr Asn Ala Asp Ile Leu Lys Ile Gln Tyr Ile Trp Arg		
20	25	30
Lys Asn Leu Asp Asn Thr Leu Lys Gly Val Asn Leu Leu His Asn		
35	40	45
Ile Met Lys Lys Ile Thr Ile Ala Ile Asp Gly Phe Ser Ser Cys Gly		
50	55	60
Lys Ser Thr Met Ala Lys Asp Leu Ala Lys Glu Ile Gly Tyr Ile Tyr		
65	70	75
Ile Asp Ser Gly Ala Met Tyr Arg Ala Val Thr Leu Tyr Ser Ile Glu		
85	90	95
Asn Gly Ile Phe His Gly Asp Thr Ile Asp Thr Asp Glu Leu Lys Arg		
100	105	110
Arg Ile Gly Asp Ile His Ile Ser Phe Arg Ile Asp Pro Glu Thr Gly		
115	120	125
Arg Pro Asn Thr Tyr Leu Asn Gly Val Asn Val Glu Asn Lys Ile Arg		

130	135	140													
Thr	Met	Glu	Val	Ser	Ser	Lys	Val	Ser	Pro	Ile	Ser	Ala	Leu	Gly	Phe
145				150						155					160
Val	Arg	Glu	Ala	Met	Val	Ala	Gln	Gln	Gln	Glu	Met	Gly	Lys	Ala	Lys
				165						170					175
Gly	Ile	Val	Met	Asp	Gly	Arg	Asp	Ile	Gly	Thr	Thr	Val	Phe	Pro	Asp
				180					185						190
Ala	Glu	Leu	Lys	Ile	Phe	Val	Thr	Ala	Ser	Ala	Glu	Ile	Arg	Ala	Gln
				195				200				205			
Arg	Arg	Tyr	Asp	Glu	Leu	Lys	Ala	Lys	Gly	Gln	Glu	Thr	Gly	Phe	Glu
				210				215				220			
Glu	Ile	Leu	Glu	Asn	Val	Lys	Gln	Arg	Asp	His	Ile	Asp	Gln	Thr	Arg
225					230					235					240
Glu	Val	Ser	Pro	Leu	Lys	Lys	Ala	Asp	Asp	Ala	Leu	Leu	Leu	Asp	Asn
					245					250					255
Ser	His	Leu	Thr	Ile	Ala	Glu	Gln	Lys	Glu	Trp	Leu	Met	Ala	Glu	Tyr
				260				265				270			
Gln	Lys	Ala	Ile	Lys	Ala										
				275											

&lt;210&gt; 7476

&lt;211&gt; 331

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7476

Lys	Asn	Met	Ile	Val	Met	Gly	Thr	Val	Lys	Cys	Val	Gly	Ile	Leu	Thr
1					5				10						15
Ser	Gly	Gly	Asp	Ala	Pro	Gly	Met	Asn	Ala	Ala	Ile	Arg	Ala	Val	Thr
							20		25			30			
Arg	Ala	Ala	Ile	Tyr	Asn	Gly	Leu	Gln	Val	Lys	Gly	Ile	Tyr	Arg	Gly
					35			40			45				
Tyr	Arg	Gly	Leu	Val	Thr	Gly	Glu	Ile	Lys	Glu	Phe	Lys	Ser	Gln	Asn
					50			55			60				
Val	Ser	Asn	Ile	Ile	Gln	Leu	Gly	Gly	Thr	Ile	Leu	Lys	Thr	Ala	Arg
						65		70			75				80
Cys	Lys	Glu	Phe	Thr	Thr	Pro	Glu	Gly	Arg	Lys	Met	Ala	Tyr	Asp	Asn
						85			90					95	
Met	Val	Lys	Glu	Gly	Ile	Asp	Ala	Leu	Val	Val	Ile	Gly	Gly	Asp	Gly
					100			105				110			
Ser	Leu	Thr	Gly	Ala	Arg	Ile	Phe	Ala	Gln	Glu	Tyr	Asp	Ile	Pro	Cys
						115		120			125				
Ile	Gly	Leu	Pro	Gly	Thr	Ile	Asp	Asn	Asp	Leu	Tyr	Gly	Thr	Asp	Thr
						130		135			140				
Thr	Ile	Gly	Tyr	Asp	Thr	Ala	Leu	Asn	Thr	Ile	Leu	Asp	Ala	Val	Asp
						145		150			155				160
Lys	Ile	Arg	Asp	Thr	Ala	Thr	Ser	His	Glu	Arg	Leu	Phe	Phe	Val	Glu
							165		170			175			
Val	Met	Gly	Arg	Asp	Ala	Gly	Phe	Leu	Ala	Leu	Asn	Gly	Ile	Ala	
						180		185			190				
Ser	Gly	Ala	Ala	Ala	Ile	Ile	Pro	Glu	Phe	Ser	Thr	Glu	Val	Asp	
						195		200			205				
Gln	Leu	Glu	Glu	Phe	Ile	Lys	Ser	Gly	Phe	Arg	Lys	Ser	Lys	Asn	Ser
						210		215			220				
Ser	Ile	Val	Leu	Val	Ala	Glu	Ser	Glu	Leu	Thr	Gly	Gly	Ala	Met	His
						225		230			235				240
Tyr	Ala	Glu	Arg	Val	Lys	Asn	Glu	Tyr	Pro	Gln	Tyr	Asp	Val	Arg	Val
						245		250			255				
Thr	Ile	Leu	Gly	His	Leu	Gln	Arg	Gly	Gly	Ser	Pro	Thr	Ala	His	Asp

B. fragilis

260	265	270
Arg Ile Leu Ala Ser Arg Leu Gly Ala Ala Ala Ile Asp Ala Ile Met		
275	280	285
Glu Asp Gln Arg Asn Val Met Ile Gly Ile Glu His Asp Glu Ile Val		
290	295	300
Tyr Val Pro Phe Ser Lys Ala Ile Lys Asn Asp Lys Pro Val Lys Arg		
305	310	315
Asp Leu Val Asn Val Leu Arg Glu Leu Ser Ile		
325	330	

&lt;210&gt; 7477

&lt;211&gt; 259

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7477

Asn Met Leu Val Asp Ser His Ser His Leu Phe Leu Glu Glu Phe Ala			
1	5	10	15
Glu Asp Leu Pro Phe Val Met Glu Arg Ala Arg Ala Ala Gly Val Thr			
20	25	30	
His Ile Phe Met Pro Asn Ile Asp Ser Thr Thr Ile Glu Pro Met Leu			
35	40	45	
Ser Val Cys Asp Thr Tyr Arg Asp Phe Cys Phe Pro Met Ile Gly Leu			
50	55	60	
His Pro Thr Ser Val Asn Glu Ser Tyr Glu Lys Glu Leu Glu Ile Val			
65	70	75	80
Ala Ala Asn Leu Glu Thr Ser Gly Arg Phe Val Ala Val Gly Glu Ile			
85	90	95	
Gly Ile Asp Leu Tyr Trp Asp Lys Thr Trp Leu Lys Glu Gln Leu Ile			
100	105	110	
Ala Phe Glu Lys Gln Val Gln Trp Ala Leu His Tyr Gln Leu Pro Ile			
115	120	125	
Val Ile His Cys Arg Glu Ala Phe Asp Tyr Ile Tyr Lys Val Leu Gln			
130	135	140	
Pro Tyr Lys Asn Ser Gly Leu Thr Gly Ile Phe His Ser Phe Thr Gly			
145	150	155	160
Thr Pro Gly Glu Ala Ala Arg Met Met Glu Phe Pro Gly Phe Lys Ile			
165	170	175	
Gly Ile Asn Gly Val Val Thr Phe Lys Lys Ser Thr Leu Pro Glu Thr			
180	185	190	
Leu Lys Ser Val Pro Leu Glu Arg Ile Val Leu Glu Thr Asp Ser Pro			
195	200	205	
Tyr Leu Thr Pro Val Pro Asn Arg Gly Lys Arg Asn Glu Ser Ala Asn			
210	215	220	
Val Lys Asp Thr Leu Ile Lys Val Ala Glu Ile Tyr Asn Glu Asp Pro			
225	230	235	240
Glu Lys Val Ala Glu Leu Thr Ala Val Ser Ala Leu Lys Val Phe Gly			
245	250	255	
Met Leu Lys			

&lt;210&gt; 7478

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7478

Ser Tyr Val Phe Ile Gly Thr Ile Leu Phe Val Glu Pro Cys Ile Tyr			
1	5	10	15

Arg Ile Ile Ser Phe Val Gly Phe Ile Gln Ser Cys Val Tyr Asn Ile  
 20 25 30  
 Cys Met Asp Ser Glu Glu Glu Arg Phe Thr Val Leu Gly Ala Ile Gly  
 35 40 45  
 Leu Arg Arg Gly Gly Leu Leu Pro Gly Gly Gly Leu Lys  
 50 55 60

<210> 7479

<211> 213

<212> PRT

<213> B.fragilis

<400> 7479

Arg Ile Ala Ser Thr Trp Trp Leu Trp Pro Val Phe Arg Gln Thr Val  
 1 5 10 15  
 Gly Ser Ala Leu Pro Asn Arg Glu His Gly Ser Thr Arg Pro Ser Gly  
 20 25 30  
 Ser His Phe Asp Thr Phe Tyr Ser Asp Arg Tyr Leu Thr Thr Ser Arg  
 35 40 45  
 Val Lys Ala Ile Asn Asp Ala Leu Ala Gly Ile Pro Tyr Glu His Ile  
 50 55 60  
 Ile Ile Leu Ala Asn Thr Glu Gln Tyr Gly Gly Gly Ile Tyr Asn  
 65 70 75 80  
 Ala Phe Thr Leu Thr Thr Ala His His Pro Asn Phe Arg Pro Val Val  
 85 90 95  
 Val His Glu Phe Gly His Ser Phe Gly Gly Leu Ala Asp Glu Tyr Phe  
 100 105 110  
 Tyr Asp Glu Asp Val Met Asn Gly Leu Tyr Pro Leu Asn Ile Glu Pro  
 115 120 125  
 Trp Glu Gln Asn Ile Thr Thr Arg Ile Asn Phe Ala Ser Lys Trp Glu  
 130 135 140  
 Asp Met Leu Thr Lys Ala Thr Pro Val Pro Thr Pro Val Ala Asn Lys  
 145 150 155 160  
 Ala Lys Tyr Pro Ile Gly Val Tyr Glu Gly Gly Tyr Ser Ala Lys  
 165 170 175  
 Gly Ile Tyr Arg Pro Ala Phe Asp Cys Arg Met Arg Thr Asn Glu Tyr  
 180 185 190  
 Pro Thr Phe Cys Pro Val Cys Gln Arg Ala Ile Gln Arg Ile Ile Glu  
 195 200 205  
 Phe Tyr Thr Gly Lys  
 210

<210> 7480

<211> 350

<212> PRT

<213> B.fragilis

<400> 7480

Ile Arg Leu Ser Leu Lys Leu Ser Ser Ser Ile Met Ser Asp Ser Ile  
 1 5 10 15  
 Lys Thr Phe Lys Thr Gly Tyr Ile Leu Leu Pro Val Leu Ile Gly Leu  
 20 25 30  
 Ser Val Val Gly Trp Leu Phe Tyr Trp Glu Phe Asn Pro Glu Leu Phe  
 35 40 45  
 Ser Gly Ile Arg Phe Ser Trp Arg Leu Val Gly Gly Leu Leu Leu Ala  
 50 55 60  
 Val Leu Phe Met Phe Gly Arg Asp Gly Gly Leu Met Trp Arg Phe Arg  
 65 70 75 80  
 Phe Ile Thr Asp Arg Glu Leu Thr Trp Arg Gln Ala Phe Arg Val Asn

85	90	95
Met Leu Cys Glu Phe Thr Ser Ala Val	Thr Pro Ser Ala Val	Gly Gly
100	105	110
Ser Ser Leu Ile Val Leu Phe Leu Asn Lys	Glu Gly Ile Asn Ala Gly	
115	120	125
Arg Ser Thr Ala Leu Thr Ile Ser Cys	Leu Phe Leu Asp Glu Leu Phe	
130	135	140
Leu Val Leu Ala Cys Pro Phe Ala Leu	Leu Phe Ser Phe Asp Asp	
145	150	155
Leu Phe Gly Asn Val Ala Ile Leu Ser	Ser Gly Ile Glu Val Leu Phe	
165	170	175
Phe Leu Val Tyr Gly Val Val Thr Ile	Trp Thr Phe Leu Leu Tyr Leu	
180	185	190
Ala Leu Phe Arg Arg Pro Glu Trp Val	Lys Arg Leu Leu Leu Thr Ile	
195	200	205
Phe Arg Leu Pro Leu Leu Arg Arg	Trp His Lys Ala Ile Glu Thr Leu	
210	215	220
Thr Asp Asn Leu Val Leu Ser Ser Arg	Glu Met Ser Gln Lys Ser Phe	
225	230	235
Thr Phe Trp Leu Lys Ala Phe Gly	Ile Thr Cys Leu Ala Trp Thr Ser	
245	250	255
Arg Tyr Leu Val Val Asn Ala Leu	Ile Ala Phe Thr Thr Ser Gly	
260	265	270
Ser Gln Leu Leu Ala Phe Val Arg	Gln Leu Ile Leu Trp Val Val Met	
275	280	285
Thr Ile Ser Pro Thr Pro Gly Gly	Ser Gly Val Ser Glu Tyr Met Phe	
290	295	300
Arg Glu Tyr Tyr Ala Asp Phe	Asp Val Ala Gly Met Ala Leu Val	
305	310	315
Val Ala Phe Val Trp Arg Ile Ile	Thr Tyr Tyr Met Tyr Leu Leu Ile	
325	330	335
Gly Ala Ile Ile Ile Pro Gly Trp	Val Lys Lys Leu Arg Asp	
340	345	350

&lt;210&gt; 7481

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7481

Arg Lys Glu Ser Tyr Leu Cys Asp Arg	Ser Ile Phe Leu Ser Ile Glu		
1	5	10	15
Phe Met Lys Arg Arg Leu Ile Gln Phe	Val Thr Thr Tyr Phe Leu Phe		
20	25	30	
Val Leu Ile Phe Val Leu Gln Lys Pro	Ile Phe Met Gly Tyr Tyr His		
35	40	45	
Thr Leu Tyr Asn Lys Val Ser Trp	Thr Asp Tyr Phe Ser Val Met Gly		
50	55	60	
His Gly Leu Pro Leu Asp Phe Ser	Leu Ala Gly Tyr Leu Thr Ala Ile		
65	70	75	80
Pro Gly Leu Leu Ile Ala Ser Val	Trp Ile Gln Pro Ala Val Ile		
85	90	95	
Arg Gln Ile Arg Arg Gly Tyr Phe Met	Ile Ile Ala Ile Leu Leu Ser		
100	105	110	
Cys Ile Phe Ile Gly Asp Leu Asp	Cys Met Asn Thr Glu Asp Ser Ala		
115	120	125	
Trp Met Pro Leu Arg Cys Ser Thr	Ser Ser Pro Arg Pro Lys Met Leu		
130	135	140	
Trp Pro Val Ser Ala Phe Gly Ser			

145

150

&lt;210&gt; 7482

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7482

Ala Arg Arg Ser Pro Tyr Asn Arg Gln Glu Ser Val Tyr Ile Cys Met

1 5 10 15

Phe Asp Val Leu Tyr Ile Gly Gln Glu Thr Met Ala Gly Asp Gln Gln  
20 25 30Thr Leu Lys Pro Asp Thr Thr Leu Val Arg Ser Cys Thr Asp Cys Ser  
35 40 45Phe Pro Asn Ser Ser Phe Ser Asn His Tyr Thr Asn Leu Gln  
50 55 60

&lt;210&gt; 7483

&lt;211&gt; 705

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7483

Gln Ser Ile Pro Thr Gly Thr Val Tyr Met Thr Met Met Lys Gln Ser

1 5 10 15

Tyr Leu Asn Ser Gly Tyr Leu Thr Gln Leu Ile Met Lys Lys Arg Ile  
20 25 30Gln Ile Leu Ile Ile Val Ile Leu Tyr Ala Leu Met Phe Val Pro Leu  
35 40 45Ser Ala Gln Thr Pro His Thr Ile Ser Gly Ile Val Lys Asp Arg Ala  
50 55 60Ser Val Pro Ile Ser Gly Val Asn Ile Arg Val Glu Gly Gln Lys Trp  
65 70 75 80Lys Ala Ser Thr Gly Lys Glu Gly Lys Phe Thr Leu Glu Ile Pro Gln  
85 90 95Asn Ser Thr Ile Thr Phe Ser Ser Val Gly Tyr Glu Pro Val Thr Ile  
100 105 110His Ser Gly Glu Lys Lys Trp Ile Glu Ile Thr Leu Lys Glu Ser Gln  
115 120 125Ser Leu Leu Pro Glu Ile Thr Val Thr Ser Thr Leu Lys Asn Ser Met  
130 135 140Lys Phe Val Phe Ala Pro Ser Asp Leu Glu Leu Ile Lys Asp Met Leu  
145 150 155 160Tyr Leu Lys Thr Arg Tyr Lys Ile Pro Ser Lys Arg Phe Gln Ser Asp  
165 170 175Ser Arg Val Ile Ile Gln Pro Ile Leu Ser Asn Asn Ser Arg Gly Thr  
180 185 190Gln Lys Asn Phe Ser Pro Ile Val Tyr Asp Gly Lys Asn Tyr Asp Ile  
195 200 205Leu Leu Arg Arg Gly Asn Val Cys Gly Asp Arg Ala Glu Lys Glu Tyr  
210 215 220Tyr Ser Arg Phe Ala Gln Val Ile Asp Pro Asp Ser Ile Cys Asn Gln  
225 230 235 240Thr Leu Thr Tyr Ala Asp Ser Cys Thr Val Asp Asp Ile Asn Asp Leu  
245 250 255Tyr Thr Thr Glu Val Arg Ile Lys Ile Ser Thr Phe Cys Gln Asp Glu  
260 265 270Tyr Arg Asp Thr Ile Arg Ile Thr Asn Gly Ile Ile Tyr Pro Met Arg  
275 280 285

Phe Phe Asn Tyr Asn Leu Ser Ala Met Asp Leu Asn Ser Tyr Ile  
 290 295 300  
 Pro Lys Gln Thr Pro Leu Asn Phe Asn Glu Lys Gly Glu Met His Leu  
 305 310 315 320  
 Arg Phe Arg Pro Glu Asp Ala Asn Ile Tyr Glu Asn Glu Gly Lys Asn  
 325 330 335  
 Ala Glu Glu Leu Arg Lys Met Lys Lys Ala Leu Asp Asp Ile Asp Lys  
 340 345 350  
 Asp Arg Thr Lys Thr Leu Thr Thr Phe Gln Ile Ile Gly Tyr Thr Ser  
 355 360 365  
 Pro Glu Gly Thr Tyr Glu Tyr Asn Leu Lys Leu Ala Lys Lys Arg Met  
 370 375 380  
 Lys Asn Ala Glu Gly Lys Val Phe Glu Asn Ile Ser Glu Glu Thr Ile  
 385 390 395 400  
 Arg Lys Ala Lys Val Asp Asn Asp Ala Val Val Glu Ser Trp Thr Thr  
 405 410 415  
 Val Cys Glu Leu Met Glu Lys Asp Ser Ile Gln Glu Val Ser Gln Leu  
 420 425 430  
 Lys Glu Leu Ile Lys Arg Ala Arg Gly Asn His Asn Glu Ile Ser Trp  
 435 440 445  
 Gly Ala Arg Arg Met Lys Ile Tyr Pro Leu Ile Arg Asp Arg Tyr Leu  
 450 455 460  
 Pro Arg Leu Arg Arg Val Glu Tyr Phe Tyr Glu Tyr Ser Glu Leu Arg  
 465 470 475 480  
 Thr Leu Asn Lys Asp Glu Ile Asp Ala Leu Tyr Lys Lys Asp Pro Gln  
 485 490 495  
 Lys Leu Thr Ala Ser Glu Phe Trp Ser Tyr Ile Met Ser Gln Lys Asp  
 500 505 510  
 Ala Thr Asp Glu Lys Arg Glu Ala Leu Tyr Arg Glu Ala Leu Ser Ile  
 515 520 525  
 His Pro Asp Leu Met Ile Ala Ala Asn Asn Leu Ala Ser Leu Leu Ile  
 530 535 540  
 Lys Gln Asn Arg Ala Asp Thr Thr Leu Leu Lys Pro Phe Ile Thr Gln  
 545 550 555 560  
 Asp Ala Pro Ser Ala Ile Leu Val Asn Gln Thr Val Ala Tyr Leu Gln  
 565 570 575  
 Lys Arg Asp Phe Lys Arg Ala Asn His Phe Ala Glu Leu Leu Pro Asp  
 580 585 590  
 Asn Lys Asp Thr Glu Ile Val Lys Ala Leu Ala Ala Met Asp Gly  
 595 600 605  
 Lys Tyr Gln Glu Ala Tyr Pro Ile Phe Glu Lys Gln Gly Gly Ile Asn  
 610 615 620  
 Gln Ala Ile Leu Leu Leu Ser Met Lys Gln Asn Ser Lys Ala Trp Glu  
 625 630 635 640  
 Val Leu Lys Lys Val Glu Asp Thr Ser Pro Asp Thr Glu Tyr Val Lys  
 645 650 655  
 Ala Ile Ala Ala Asn Arg Leu Asn Asn Val Asn Glu Ala Val Ile His  
 660 665 670  
 Leu Arg Asn Ala Ile Thr Gln Lys Pro Ser Leu Lys Glu Ile Ala Gln  
 675 680 685  
 Lys Asp Gly Asp Val Leu Asp Leu Leu Asp Leu Leu Asp Leu Asp Lys  
 690 695 700  
 Lys  
 705

&lt;210&gt; 7484

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7484

Ser Met Lys Pro His Thr Leu Phe Leu Thr Leu Gly Ile Leu Leu Leu  
 1 5 10 15  
 Gly Phe Ser Ala Cys Glu Pro Leu Asn Glu Thr Pro Glu Thr Pro Ala  
 20 25 30  
 Phe Ser Leu Asn Leu Thr Ser Pro Asp Gly Glu Pro Ser Thr Asp Asn  
 35 40 45  
 Asp Asn Ala Val Leu Gln Lys Leu Val Tyr His Leu Phe Ile Phe Arg  
 50 55 60  
 Ser Asn Thr Ala Asn Pro Ser Pro Asp Asn Asp Gly Ser Asn Tyr Thr  
 65 70 75 80  
 Phe Trp Arg His Thr Gly Asp Leu Thr Leu Lys Gln Ile Arg Glu Tyr  
 85 90 95  
 Thr Leu Ser Ile Pro Ser Glu Ser Thr Asp Arg Ser Tyr Leu Leu Leu  
 100 105 110  
 Val His Ala Thr Pro Lys Glu Lys Pro Glu Ser Glu Ile Ile Ser Lys  
 115 120 125  
 Glu Gly Met Thr Phe Ser Glu Ser Glu Ile Ser Met Ile Lys Glu Asn  
 130 135 140  
 Asp Asn Asn Tyr Val Pro Leu Ser Lys Asp Asn Tyr Tyr Ala Ile Gln  
 145 150 155 160  
 Gln Leu Thr Pro Glu Asp Ile Ala Gln Gly Lys Thr Ser Ile Glu Phe  
 165 170 175  
 Lys Leu Lys Arg Ala Val Gly Glu Leu Val Phe Asp Val Met Lys Cys  
 180 185 190  
 Asp Glu Lys Ser His Asn Pro Ile Asp Ile Asp Thr Glu Cys Ser Ser  
 195 200 205  
 Thr Leu Asp Arg Val Phe Arg Ile Asp Ile Glu Ile Asn Gly Val Ile  
 210 215 220  
 Pro Lys Val Ser Leu Thr Asn Glu Thr Lys Asn Pro Glu Arg Ile Asn  
 225 230 235 240  
 Ile Cys Phe Ser Lys Glu Ile Val Leu Lys Ser Asp Tyr Thr Pro Asp  
 245 250 255  
 Phe Ala Asn Asn Thr Glu Val Ile Glu Pro Leu Thr Asn Ala Pro Leu  
 260 265 270  
 Asp Thr Asn Glu Lys Ala Val Lys Gly Ala Thr Arg Ile Cys Gly Pro  
 275 280 285  
 Tyr Leu Phe Ser Lys Met Thr Leu Asp His Pro Asp Glu Glu Ala Thr  
 290 295 300  
 Asp Pro Glu Glu Gly Ile Lys Thr Ile Leu Asn Phe Ser Tyr Tyr Asp  
 305 310 315 320  
 Thr Thr Pro Leu Pro Asn Gly Ser Tyr Ser Thr Lys Lys Leu Ile Leu  
 325 330 335  
 Ser Leu Thr Asp Lys Pro Leu Thr Ile Val Lys Asp His Tyr Thr Val  
 340 345 350  
 Thr Asn Ile Arg Leu Arg Asn Asn Arg Ile Ile Asp Leu Ser Val Ser  
 355 360 365  
 Gly Asp Phe Gly Ile Asp Trp Lys Trp Asp  
 370 375

&lt;210&gt; 7485

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7485

Ile Leu Ala Ala Ile Phe Val Ile Pro Lys Leu Lys Glu Tyr Pro Pro  
 1 5 10 15

Met Ser Arg Glu Glu Leu Gln Gln Lys Ser Arg Phe Ala Met Ile Gly  
     20                25                30  
 Thr Leu Met Thr Ile Val Ser Leu Val Phe Leu Phe Tyr Val Gly Ser  
     35                40                45  
 Ser Leu Val Asn Thr Thr Lys Lys Tyr Lys Glu Leu Ala Ile Glu Ile  
     50                55                60  
 Ala Cys Ile Asn Lys  
     65

&lt;210&gt; 7486

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7486

Lys Gly Glu Ala Asp Ser Phe Ser Leu Phe Ser Tyr Leu Phe Phe Ser  
 1                  5                10                15  
 Ser Ala Arg Lys Ala Gly Val Arg Gly Glu Lys Ser Gly Leu Gly Arg  
     20                25                30  
 Met Lys Val Trp Leu Ser Asn Pro Asn Arg Arg Leu Leu Arg Pro Gly  
     35                40                45  
 Gln Thr Pro Ser Ser Asp Lys Asp Glu Ala Leu Phe Cys Tyr Ile Thr  
     50                55                60  
 Ile Tyr Val Thr Gly Ile Ser Pro Ile Val Ile Gly Ser Ser Ser Ile  
     65                70                75                80  
 Arg Leu Ile Lys His Lys Asn Ala Ile Asp Lys Ile Gln Leu Gly Phe  
     85                90                95  
 Pro Phe Leu Leu Tyr Glu Leu Thr Asp Gln Gly Asn Lys Ile Phe Ser  
     100              105              110  
 Val Leu Phe Leu Phe Ile Phe Thr Asn Pro Val Asp Val Thr Glu Gly  
     115              120              125  
 Phe Asp Cys Arg Gly Thr  
     130

&lt;210&gt; 7487

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7487

Asn Tyr Phe Leu Val Leu Ser Thr Asn Gly Leu Lys Glu Thr Lys Asn  
 1                  5                10                15  
 Met Glu Ile Glu Lys Asp Phe Ile Asp Leu Leu Thr Glu His Lys Ala  
     20                25                30  
 Leu Ile Tyr Lys Val Cys Phe Met Tyr Ala Ser Asn Gln Glu Asp Leu  
     35                40                45  
 Asn Asp Leu Tyr Gln Glu Val Val Val Asn Leu Trp Cys Ser Tyr Pro  
     50                55                60  
 Lys Phe Arg Tyr Glu Ser Lys Leu Ser Thr Trp Ile Tyr Arg Val Ala  
     65                70                75                80  
 Leu Asn Thr Cys Ile Ser Asp Leu Arg Lys Lys Lys Ile Leu Asp Tyr  
     85                90                95  
 Val Pro Leu Ser Val Asp Ile Gly Val Tyr Asp Asp Cys Leu Arg Asn  
     100              105              110  
 Asp Ser Leu Lys Glu Met Tyr Gln Leu Ile Cys Gln Leu Asp Arg Tyr  
     115              120              125  
 Glu Arg Met Leu Val Leu Leu Trp Leu Asp Glu Asn Ser Tyr Asp Glu  
     130              135              140  
 Ile Ala Ser Ile Thr Gly Ser Asn Arg Asn Thr Val Ala Val Lys Leu

145	150	155	160
His Arg Ile Lys Asp	Lys Leu Lys Lys Met	Ser Asn Gln	
165	170		

&lt;210&gt; 7488

&lt;211&gt; 565

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7488

Ile Cys Ser Gln Pro Leu Lys Lys Cys Phe Met Thr Arg Val Pro Phe			
1	5	10	15
Thr Gln Asn Tyr Arg Trp His Leu Pro Leu Leu Leu Val Phe Cys			
20	25	30	
Cys Ser Phe Phe Ile Asn Asn Gly Ala Ile Phe Ala Asp Ile Met Glu			
35	40	45	
Ser Arg Asn Ile Ile Thr Ala Arg Glu Met Val Tyr Asp His Asn Trp			
50	55	60	
Leu Val Pro Thr Met Asn Gly Glu Leu Arg Leu Glu Lys Pro Pro Leu			
65	70	75	80
Pro Thr Trp Ile Ala Ala Ile Thr Glu Met Ile Ser Pro Asp Asn Leu			
85	90	95	
Pro Leu Gln Arg Ala Met Ala Gly Phe Ala Ala Val Met Leu Val Leu			
100	105	110	
Phe Phe Tyr Lys Phe Ala Thr Lys Leu Thr Asp Asn Arg Thr Tyr Ala			
115	120	125	
Leu Val Ser Ser Leu Val Leu Cys Thr Ser Tyr Asn Ile Ile Leu Met			
130	135	140	
Gly Arg Thr Ala Thr Trp Asp Ile Tyr Cys His Ala Phe Met Ile Gly			
145	150	155	160
Ala Ile Tyr Tyr Leu Tyr Leu Ala Leu Arg Gln Asn Thr Cys Lys Trp			
165	170	175	
Thr Tyr Phe Ile Gly Ala Gly Ile Phe Met Gly Leu Ser Phe Leu Gly			
180	185	190	
Lys Gly Pro Val Ser Phe Tyr Ala Leu Leu Leu Pro Phe Val Cys Ala			
195	200	205	
Tyr Ile Leu Tyr Tyr Arg Lys Glu Thr Gln Met Lys Gly Lys Trp Ile			
210	215	220	
Ala Leu Ala Val Met Ile Leu Ile Gly Ile Val Leu Ser Thr Trp Trp			
225	230	235	240
Tyr Ala Tyr Ile Tyr Ile Tyr His Gln Glu Met Ala Ser Tyr Val Phe			
245	250	255	
His Lys Glu Ser Ser Ser Trp Ser Asn His Asn Val Arg Ser Trp Tyr			
260	265	270	
Tyr Tyr Trp Gln Phe Phe Leu Glu Thr Gly Val Trp Ser Leu Leu Thr			
275	280	285	
Leu Thr Thr Leu Leu Val Pro Phe Trp Lys Lys Arg Val Glu Ser Ser			
290	295	300	
Lys Glu Tyr Leu Phe Cys Leu Ser Trp Met Leu Leu Ile Leu Phe Phe			
305	310	315	320
Leu Ser Leu Leu Pro Glu Lys Lys Thr Arg Tyr Leu Leu Pro Ile Leu			
325	330	335	
Leu Pro Ala Ala Leu Thr Met Gly His Leu Phe Val Tyr Trp Ile Arg			
340	345	350	
Gln Ala Lys Gln Lys Met Pro Gln Leu Lys Asp Arg Val Leu Tyr Arg			
355	360	365	
Ile Asn Ala Tyr Leu Ile Val Val Ala Ala Leu Ala Leu Pro Ile Ala			
370	375	380	
Leu Tyr Leu Phe Met Tyr Arg Glu Gly Arg Met Gly Thr Gly Met Phe			

385	390	395	400
Val Trp Leu Val Val	Leu Phe Leu Thr Val Ala Val Trp Leu Phe Arg		
405	410	415	
Ser Ala Phe Lys Leu Gln Pro Phe Ser	Phe Leu Met Gly Ile Val Ala		
420	425	430	
Leu Phe Ala Val Ala Glu Leu Phe Val Met Pro Tyr Ile Gly Ser Phe			
435	440	445	
Val Ser Asn Ser Asp Pro Lys Ser Ile Ser Ala Thr Arg Glu Asn Pro			
450	455	460	
Glu Leu Gln Pro Leu Pro Phe Tyr His Ser Lys Asp Glu Val Leu Arg			
465	470	475	480
Ile Glu Leu Val Tyr Glu Ala His Lys Ile Gly Asp Met Asp Leu			
485	490	495	
Thr Asn Lys Glu Glu Ile Ile Lys Ala Leu Pro Phe Val Leu Ile Ser			
500	505	510	
Gln Lys Pro Ala Glu Leu Leu Ile Pro Asp Ser Ile Arg Lys Asp Leu			
515	520	525	
Asn Leu Arg Phe Ile Asp Cys Tyr Asp Asn Asn Arg Trp Ala Lys Gly			
530	535	540	
His Lys Arg Tyr Asp Ser Val Phe Ile Ser Asn Val Thr Ile Val Glu			
545	550	555	560
Pro Ile Lys Glu Gln			
	565		

&lt;210&gt; 7489

&lt;211&gt; 85

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7489

His Ser Val Lys Ala Cys Ser Leu Asp Val Asn Lys Lys Phe Phe Lys			
1	5	10	15
Cys Lys Arg Leu Val Ile Cys Ala Gln Glu Pro Asp Asn Pro Gln Lys			
20	25	30	
Ala Leu Thr Met Leu Ile Glu Lys Arg Tyr Lys Asp Glu Asp Thr Gly			
35	40	45	
Ser Asp Gly Val Asn Ser Phe Pro Lys Leu Glu Leu Ser Tyr Ser Ala			
50	55	60	
Gly Val Cys Leu Phe Leu Leu Lys Gln Ala Lys Arg Thr Ile Ile Asn			
65	70	75	80
Leu Lys Ile Lys Lys			
	85		

&lt;210&gt; 7490

&lt;211&gt; 551

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7490

Leu Asn Ser Lys Ile Val Met Ala Lys Glu Ile Leu Phe Asn Ile Glu			
1	5	10	15
Ala Arg Asp Gln Leu Lys Lys Gly Val Asp Ala Leu Ala Asn Ala Val			
20	25	30	
Lys Val Thr Leu Gly Pro Lys Gly Arg Asn Val Ile Ile Glu Lys Lys			
35	40	45	
Phe Gly Ala Pro His Ile Thr Lys Asp Gly Val Thr Val Ala Lys Glu			
50	55	60	
Ile Glu Leu Thr Asp Ala Tyr Gln Asn Thr Gly Ala Gln Leu Val Lys			
65	70	75	80

Glu Val Ala Ser Lys Thr Gly Asp Asp Ala Gly Asp Gly Thr Thr Thr  
 85 90 95  
 Ala Thr Val Leu Ala Gln Ala Ile Ile Ala Glu Gly Leu Lys Asn Val  
 100 105 110  
 Thr Ala Gly Ala Ser Pro Met Asp Ile Lys Arg Gly Ile Asp Lys Ala  
 115 120 125  
 Val Ala Lys Val Val Asp Ser Ile Lys His Gln Ala Glu Lys Val Gly  
 130 135 140  
 Asp Asn Tyr Asp Lys Ile Glu Gln Val Ala Thr Val Ser Ala Asn Asn  
 145 150 155 160  
 Asp Pro Val Ile Gly Lys Leu Ile Ala Asp Ala Met Arg Lys Val Ser  
 165 170 175  
 Lys Asp Gly Val Ile Thr Ile Glu Glu Ala Lys Gly Thr Asp Thr Thr  
 180 185 190  
 Ile Gly Val Val Glu Gly Met Gln Phe Asp Arg Gly Tyr Leu Ser Ala  
 195 200 205  
 Tyr Phe Val Thr Asn Thr Glu Lys Met Glu Cys Glu Met Glu Lys Pro  
 210 215 220  
 Tyr Ile Leu Ile Tyr Asp Lys Lys Ile Ser Asn Leu Lys Asp Phe Leu  
 225 230 235 240  
 Pro Ile Leu Glu Pro Ala Val Gln Ser Gly Arg Pro Leu Leu Val Ile  
 245 250 255  
 Ala Glu Asp Val Asp Ser Glu Ala Leu Thr Thr Leu Val Val Asn Arg  
 260 265 270  
 Leu Arg Ser Gln Leu Lys Ile Cys Ala Val Lys Ala Pro Gly Phe Gly  
 275 280 285  
 Asp Arg Arg Lys Glu Met Leu Glu Asp Ile Ala Val Leu Thr Gly Gly  
 290 295 300  
 Val Val Ile Ser Glu Glu Lys Gly Leu Lys Leu Glu Gln Ala Thr Ile  
 305 310 315 320  
 Glu Met Leu Gly Thr Ala Asp Lys Val Thr Val Ser Lys Asp Asn Thr  
 325 330 335  
 Thr Ile Val Asn Gly Ala Gly Ala Lys Glu Asn Ile Lys Glu Arg Cys  
 340 345 350  
 Asp Gln Ile Lys Ala Gln Ile Ala Ala Thr Lys Ser Asp Tyr Asp Arg  
 355 360 365  
 Glu Lys Leu Gln Glu Arg Leu Ala Lys Leu Ser Gly Gly Val Ala Val  
 370 375 380  
 Leu Tyr Val Gly Ala Ala Ser Glu Val Glu Met Lys Glu Lys Lys Asp  
 385 390 395 400  
 Arg Val Asp Asp Ala Leu Arg Ala Thr Arg Ala Ala Ile Glu Glu Gly  
 405 410 415  
 Ile Val Ala Gly Gly Val Ala Tyr Ile Arg Ala Ile Glu Ser Leu  
 420 425 430  
 Asp Gly Leu Lys Gly Glu Asn Asp Asp Glu Thr Thr Gly Ile Ala Ile  
 435 440 445  
 Ile Lys Arg Ala Ile Glu Glu Pro Leu Arg Gln Ile Val Ala Asn Ala  
 450 455 460  
 Gly Lys Glu Gly Ala Val Val Gln Lys Val Ser Glu Gly Lys Gly  
 465 470 475 480  
 Asp Phe Gly Tyr Asn Ala Arg Thr Asp Val Tyr Glu Asn Met His Ala  
 485 490 495  
 Ala Gly Val Val Asp Pro Ala Lys Val Thr Arg Val Ala Leu Glu Asn  
 500 505 510  
 Ala Ala Ser Ile Ala Gly Met Phe Leu Thr Thr Glu Cys Val Ile Val  
 515 520 525  
 Glu Lys Lys Glu Asp Lys Pro Glu Met Pro Met Gly Ala Pro Gly Met  
 530 535 540  
 Gly Gly Met Gly Gly Met Met

545

550

<210> 7491  
<211> 338  
<212> PRT  
<213> B.fragilis

<400> 7491

Thr	Val	Ala	Lys	Val	Arg	Phe	Phe	Ser	Leu	Ser	Leu	Arg	Ile	Asn	Cys
1				5					10				15		
Gly	Lys	Thr	Glu	Arg	Tyr	Met	Ala	Lys	Ile	Ala	Lys	Lys	Leu	Thr	Glu
						20			25				30		
Leu	Ile	Gly	His	Thr	Pro	Leu	Met	Glu	Leu	Ser	Gly	Tyr	Ser	Arg	Lys
						35		40				45			
Tyr	Gly	Leu	Gln	Glu	Asn	Ile	Val	Ala	Lys	Leu	Glu	Ser	Phe	Asn	Pro
						50		55				60			
Ala	Gly	Ser	Val	Lys	Asp	Arg	Val	Ala	Leu	Ser	Met	Ile	Glu	Asp	Ala
						65		70			75		80		
Glu	Glu	Arg	Gly	Val	Leu	Gln	Pro	Gly	Ala	Thr	Ile	Ile	Glu	Pro	Thr
						85			90				95		
Ser	Gly	Asn	Thr	Gly	Val	Gly	Leu	Ala	Met	Val	Ala	Thr	Ile	Lys	Gly
						100			105				110		
Tyr	Arg	Leu	Ile	Leu	Thr	Met	Pro	Glu	Thr	Met	Ser	Leu	Glu	Arg	Arg
						115		120				125			
Asn	Leu	Leu	Lys	Ala	Leu	Gly	Ala	Gln	Ile	Val	Leu	Thr	Asn	Gly	Gln
						130		135				140			
Lys	Gly	Met	Ala	Gly	Ser	Ile	Ala	Lys	Ala	Glu	Glu	Leu	Lys	Lys	Ser
						145		150			155		160		
Ile	Pro	Gly	Ser	Val	Ile	Leu	Gln	Gln	Phe	Glu	Asn	Pro	Ala	Asn	Thr
						165			170			175			
Glu	Val	His	Ala	Arg	Ser	Thr	Gly	Glu	Glu	Ile	Trp	Gln	Asp	Thr	Asp
						180			185			190			
Gly	Glu	Val	Ala	Val	Phe	Val	Ala	Gly	Val	Gly	Thr	Gly	Gly	Thr	Val
						195			200			205			
Cys	Gly	Val	Ala	Arg	Ala	Leu	Lys	Lys	His	Asn	Pro	Asn	Val	Tyr	Ile
						210			215			220			
Val	Ala	Val	Glu	Pro	Ala	Ser	Ser	Pro	Val	Leu	Glu	Gly	Gly	Lys	Ala
						225			230			235			240
Ala	Ser	His	Arg	Ile	Gln	Gly	Ile	Gly	Ala	Asn	Phe	Val	Pro	Gly	Ile
						245			250			255			
Tyr	Asp	Ala	Ser	Val	Val	Asp	Glu	Val	Met	Pro	Val	Pro	Asp	Asp	Glu
						260			265			270			
Ala	Ile	Arg	Gly	Gly	Arg	Glu	Leu	Ala	Ser	Thr	Glu	Gly	Leu	Leu	Val
						275			280			285			
Gly	Ile	Ser	Ser	Gly	Ala	Ala	Val	Tyr	Ala	Ala	Arg	Gln	Leu	Ala	Gly
						290			295			300			
Arg	Pro	Glu	Phe	Lys	Gly	Lys	Met	Ile	Val	Thr	Leu	Leu	Pro	Asp	Thr
						305			310			315			320
Gly	Glu	Arg	Tyr	Leu	Thr	Thr	Glu	Leu	Phe	Ala	Phe	Asp	Ala	Tyr	Pro
						325			330			335			
Leu	Asp														

<210> 7492  
<211> 63  
<212> PRT  
<213> B.fragilis

<400> 7492

Val Arg Lys Lys Gly Glu Ala Val Ser Phe Pro Leu Leu Leu Tyr Phe  
 1 5 10 15  
 Asn Leu Asn Ile Val Tyr Asp Tyr Ala Asp Lys Asp Thr Thr Ile Asn  
 20 25 30  
 Asn Lys Ser Gln Val Leu Gly Leu Leu Phe Phe Arg Ile Ile Cys Ile  
 35 40 45  
 Val Ala Ser Val Arg Glu His Arg Gln Glu Ala Leu Pro Ala Lys  
 50 55 60

&lt;210&gt; 7493

&lt;211&gt; 181

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7493

Ser Met Lys Lys Arg Ala Phe Phe Leu Leu Leu Leu Leu Ile Pro  
 1 5 10 15  
 Leu Thr Ser Ile Leu Ser Gln Glu Ile Ala Leu Lys Thr Asn Val Leu  
 20 25 30  
 Ser Trp Ala Thr Thr Ile Asn Leu Gly Ala Glu Phe Lys Ile Ser  
 35 40 45  
 Pro Arg Leu Thr Ala Gly Ala Asp Ile Met Tyr Lys Gly Trp Ser Phe  
 50 55 60  
 Leu Ser Asp Asn Arg Lys Met Gly Gly Phe Leu Val Gln Pro Glu Ala  
 65 70 75 80  
 Lys Tyr Trp Phe Cys Ile Pro Phe Tyr Lys His Phe Met Gly Leu His  
 85 90 95  
 Ala His Tyr Gly Gln Tyr Asn Gly Gly Phe Ser Lys Tyr Arg Tyr Gln  
 100 105 110  
 Gly Asp Leu Tyr Gly Ile Gly Leu Ser Tyr Gly Tyr Gln Trp Ile Trp  
 115 120 125  
 Lys Arg Arg Trp Asn Ile Glu Val Ser Ala Gly Ile Gly Tyr Ala Ser  
 130 135 140  
 Met Asn Tyr Asp Lys Tyr Glu Arg Pro Lys Cys Gly Leu Phe Leu Gly  
 145 150 155 160  
 Lys Asp His Ser Asn Tyr Phe Gly Leu Thr Lys Leu Gly Val Ser Leu  
 165 170 175  
 Ile Tyr Ile Leu Lys  
 180

&lt;210&gt; 7494

&lt;211&gt; 270

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7494

Leu Thr Thr Leu Arg Thr Arg Arg Glu Asp Arg Phe Leu Arg Pro Asn  
 1 5 10 15  
 Leu Thr His Ser Met Asp Leu Tyr Tyr Gly Ala Trp Ala Val Leu Asp  
 20 25 30  
 Pro Thr Arg Asn Met Val Asp Ala Phe Glu Cys Thr Asp Gly Lys Pro  
 35 40 45  
 Trp Gly Glu Ser Pro Leu Thr Val Arg Pro Asp Glu Ser Ile Leu Tyr  
 50 55 60  
 Gly Asn Asp Asp Ala Leu Lys Lys Ala Glu Arg Ala Lys Met Phe Met  
 65 70 75 80  
 Asn Arg Asp Arg Arg Leu Tyr Glu Ser Val Asn His Ser Met Met Ala  
 85 90 95  
 Asn Phe Val Asp Asp Gly Phe Lys Asp Glu Glu Val Gln Val Asn Glu

100	105	110
Ser Asn Asn Lys Gly Pro Thr Gly	Phe Ser Ala Leu Lys	Tyr Val Gln
115	120	125
Pro Thr Asp Val Thr Pro Gly	Tyr Ser Thr Val Ser	Asp Ala Asp Ile
130	135	140
Val Val Leu Arg Tyr Ala His	Val Leu Leu Met	Ile Ala Glu Ala Glu
145	150	155
Asn Glu Ala His Gly Ala Thr	Thr Ala Leu Asn Ala	Ile Asn Glu
165	170	175
Val Arg Thr Arg Ser Gly Gln	Pro Ala Ile Glu Ala	Gly Ile Ser Gln
180	185	190
Asp Asp Leu Arg Glu Arg Ile	Arg Asn Glu Trp Arg	Ile Glu Thr Cys
195	200	205
Phe Glu Gly Leu Arg Tyr	Phe Gln Leu Lys Arg	Trp Lys Leu Met Asp
210	215	220
Lys Arg Val Asn Gly Val	Glu Asp Pro Ala Tyr	Pro Gly Tyr Ile Lys
225	230	235
Val Tyr Lys Pro Ala Phe	Glu Phe Pro Ile	Pro Gln Ser Glu Ile
245	250	255
Asp Lys Ala Gly Val Leu Lys	Gln Asp Pro Ala Tyr	Glu
260	265	270

&lt;210&gt; 7495

&lt;211&gt; 232

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7495

Ile Arg Lys Asn Met Val Ile Gly Phe Gln Trp	Ile Ile Phe Ile Gly		
1	5	10	15
Ile Ala Leu Val Ser Trp Leu Val Gln Met Asn	Leu Gln Asn Lys Phe		
20	25	30	
Lys Lys Tyr Ser Lys Ile Pro Thr Gly Asn	Gly Met Thr Gly Arg Asp		
35	40	45	
Val Ala Ile Lys Met Leu Gln Asp Asn Gly	Ile Tyr Asp Val Gln Val		
50	55	60	
Thr His Thr Pro Gly Gln Leu Thr Asp His	Tyr Asn Pro Ala Asn Lys		
65	70	75	80
Thr Val Asn Leu Ser Glu Gly Val Tyr Asp	Ser Asn Ser Ile Met Ala		
85	90	95	
Ala Ala Val Ala Ala His Glu Cys Gly His	Ala Val Gln His Ala Arg		
100	105	110	
Ala Tyr Ala Pro Leu Thr Leu Arg Ser Lys	Leu Val Pro Val Val Ser		
115	120	125	
Phe Ala Ser Gln Trp Met Thr Trp Leu Leu	Leu Ala Gly Ile Leu Leu		
130	135	140	
Leu Glu Ser Phe Pro Gln Leu Leu Phe	Ala Gly Ile Ile Leu Phe Ala		
145	150	155	160
Met Thr Thr Leu Phe Ser Phe Ile	Thr Leu Pro Val Glu Ile Asp	Ala	
165	170	175	
Ser Lys Arg Ala Leu Val Trp Leu Ser Ala	Ser Gly Ile Thr Asn Ser		
180	185	190	
Tyr Asn His Arg Gln Ala Glu Asp	Ala Leu Arg Ser Ala Ala	Tyr Thr	
195	200	205	
Tyr Val Val Ala Ala Leu Gly Ser	Leu Ala Thr Leu Ile Tyr	Tyr Tyr Ile	
210	215	220	
Met Ile Phe Met Gly Arg Arg Glu			
225	230		

<210> 7496  
<211> 684  
<212> PRT  
<213> B.fragilis

<400> 7496

Ser	Met	Lys	Lys	His	Leu	Ile	Ser	Met	Ala	Ala	Thr	Val	Ile	Leu	Leu
1				5					10				15		
Thr	Ala	Cys	Gly	Gly	Ala	Lys	Lys	Thr	Asn	Thr	Ala	Glu	Ala	Asp	Asn
					20			25				30			
Phe	Lys	Tyr	Thr	Val	Glu	Gln	Phe	Ala	Asp	Leu	Gln	Ile	Leu	Arg	Tyr
				35			40				45				
Arg	Val	Pro	Gly	Phe	Glu	Asn	Leu	Thr	Leu	Lys	Gln	Lys	Glu	Leu	Val
				50			55				60				
Tyr	Tyr	Leu	Thr	Gln	Ala	Ala	Leu	Glu	Gly	Arg	Asp	Ile	Leu	Phe	Asp
				65			70			75			80		
Gln	Asn	Gly	Lys	Tyr	Asn	Leu	Thr	Ile	Arg	Arg	Met	Leu	Glu	Thr	Ile
				85				90				95			
Tyr	Thr	Asp	Tyr	Thr	Gly	Asp	Arg	Asn	Ser	Pro	Asp	Phe	Val	Asn	Leu
				100			105				110				
Thr	Thr	Tyr	Leu	Lys	Arg	Val	Trp	Phe	Ser	Asn	Gly	Ile	His	His	His
				115			120				125				
Tyr	Gly	Ser	Glu	Lys	Phe	Val	Pro	Gly	Phe	Thr	Pro	Glu	Phe	Leu	Lys
				130			135				140				
Gln	Ala	Leu	Leu	Ser	Val	Asp	Ala	Ser	Lys	Leu	Pro	Leu	Ala	Gln	Gly
				145			150				155			160	
Gln	Thr	Val	Glu	Gln	Leu	Phe	Glu	Glu	Leu	Ser	Pro	Val	Ile	Phe	Asp
				165				170				175			
Pro	Lys	Val	Met	Pro	Lys	Arg	Val	Asn	Gln	Ala	Asp	Gly	Glu	Asp	Leu
				180			185				190				
Val	Leu	Thr	Ser	Ala	Ser	Asn	Tyr	Tyr	Asp	Gly	Val	Thr	Gln	Gln	Glu
				195			200				205				
Ala	Glu	Ala	Phe	Tyr	Asn	Ala	Leu	Lys	Asn	Pro	Lys	Asp	Glu	Thr	Pro
				210			215				220				
Val	Ser	Tyr	Gly	Leu	Asn	Ser	Arg	Leu	Val	Lys	Glu	Asp	Gly	Lys	Ile
				225			230				235			240	
Ile	Glu	Lys	Val	Trp	Lys	Val	Gly	Gly	Leu	Tyr	Thr	Gln	Ala	Ile	Glu
				245				250				255			
Lys	Ile	Val	Tyr	Trp	Leu	Lys	Lys	Ala	Glu	Gly	Val	Ala	Glu	Asp	Asp
				260			265				270				
Ala	Gln	Lys	Ala	Ala	Ile	Gly	Lys	Leu	Ile	Glu	Tyr	Tyr	Glu	Thr	Gly
				275			280				285				
Asp	Leu	Lys	Thr	Phe	Asp	Glu	Tyr	Ala	Ile	Leu	Trp	Val	Lys	Asp	Leu
				290			295				300				
Asn	Ser	Arg	Val	Asp	Phe	Thr	Asn	Gly	Phe	Thr	Glu	Ser	Tyr	Gly	Asp
				305			310				315			320	
Pro	Leu	Gly	Met	Lys	Ala	Ser	Trp	Glu	Ser	Ile	Val	Asn	Phe	Lys	Asp
				325				330				335			
Leu	Glu	Ala	Thr	Arg	Arg	Thr	Glu	Leu	Ile	Ser	Ser	Asn	Ala	Gln	Trp
				340			345				350				
Phe	Glu	Asp	His	Ser	Pro	Val	Asp	Lys	Gln	Phe	Lys	Lys	Glu	Lys	Val
				355			360				365				
Lys	Gly	Val	Thr	Ala	Lys	Val	Ile	Thr	Ala	Ala	Ile	Leu	Gly	Gly	Asp
				370			375				380				
Leu	Tyr	Pro	Ser	Thr	Ala	Ile	Gly	Ile	Asn	Leu	Pro	Asn	Ser	Asn	Trp
				385			390				395			400	
Ile	Arg	Ser	His	His	Gly	Ser	Lys	Ser	Val	Thr	Ile	Gly	Asn	Ile	Thr
				405			410				415				
Asp	Ala	Tyr	Asn	Lys	Ala	Ala	His	Gly	Asn	Gly	Phe	Asn	Glu	Glu	Phe

420	425	430
Val Tyr Ser Asp Thr Glu Lys Gln Leu Ile Asp Lys	Tyr Ala Asp Leu	
435	440	445
Thr Gly Glu Leu His Thr Asp Leu His Glu Cys	Leu Gly His Gly Ser	
450	455	460
Gly Lys Leu Leu Pro Gly Val Asp Pro Asp Ala	Leu Lys Ala Tyr Gly	
465	470	475
Ser Thr Ile Glu Ala Arg Ala Asp	Leu Phe Gly Leu Tyr Tyr Val	
485	490	495
Ala Asp Pro Lys Leu Leu Glu Leu Gly	Leu Val Pro Ser Glu Asp Ala	
500	505	510
Tyr Lys Ala Glu Tyr Tyr Thr Tyr	Leu Met Asn Gly Leu Met Thr Gln	
515	520	525
Leu Val Arg Ile Glu Pro Gly Asn Ser Val	Glu Ala His Met Arg	
530	535	540
Asn Arg Gln Leu Ile Ala Arg Trp Val Phe	Glu Lys Gly Lys Ala Asp	
545	550	555
Lys Val Val Glu Met Val Gln Lys Asp Gly	Lys Thr Tyr Val Val Val	
565	570	575
Asn Asp Tyr Gln Lys Leu Arg His	Leu Phe Gly Glu Leu Leu Ala Glu	
580	585	590
Ile Gln Arg Ile Lys Ser Thr Gly Asp Phe Asp	Ala Ala Arg Ser Leu	
595	600	605
Val Glu Asn Tyr Ala Val Lys Val Asp Pro	Glu Leu His Ser Glu Val	
610	615	620
Leu Thr Arg Tyr Lys Lys Leu Asn Leu Ala	Pro Tyr Lys Gly Phe Val	
625	630	635
Asn Pro Arg Tyr Asp Ala Val Ile Asp	Glu Gln Gly Asn Ile Val Asp	
645	650	655
Val Gln Val Thr Tyr Asp Glu Gly	Tyr Ala Glu Gln Met Leu Arg Tyr	
660	665	670
Ser Arg Asp Tyr Ser Pro Leu Pro Ser Ile Asn Asp		
675	680	

&lt;210&gt; 7497

&lt;211&gt; 294

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7497

Lys Glu Ile Glu Glu Ser Asp Val Asp Phe Asp His Gln	Phe Leu Glu		
1	5	10	15
Thr Glu Lys Tyr Asp Ala Lys Pro Thr Tyr Lys Lys Phe	Leu Gly Tyr		
20	25	30	
Arg Pro Gly Val Tyr Val Ile Gly Asp Lys Ile Val Tyr	Ile Glu Asn		
35	40	45	
Ser Asp Gly Asn Thr Asn Val Arg Phe His Gln Ala Asp	Thr His Lys		
50	55	60	
Arg Phe Phe Ala Leu Leu Glu Ser Gln Asn Ile Arg Val	Asn Arg Phe		
65	70	75	80
Arg Ala Asp Cys Gly Ser Cys Ser Lys Glu Ile Val Ser	Glu Ile Glu		
85	90	95	
Lys His Cys Lys His Phe Tyr Ile Arg Ala Asn Arg Cys	Ser Ser Leu		
100	105	110	
Tyr Asn Asp Ile Phe Ala Leu Arg Gly Trp Lys Thr Glu	Glu Ile Asn		
115	120	125	
Gly Ile Gln Phe Glu Leu Asn Ser Ile Leu Val Glu Lys	Trp Glu Gly		
130	135	140	
Lys Cys Tyr Arg Leu Val Ile Gln Arg Gln Arg Asn Ser	Gly Asp		

145	150	155	160
Leu Asp Leu Trp Glu Gly Glu Tyr Thr Tyr Arg Cys Ile Leu Thr Asn			
165	170	175	
Asp Tyr Lys Ser Ser Thr Arg Asp Ile Val Glu Phe Tyr Asn Leu Arg			
180	185	190	
Gly Gly Lys Glu Arg Ile Phe Asp Asp Met Asn Asn Gly Phe Gly Trp			
195	200	205	
Ser Arg Leu Pro Lys Ser Phe Met Ala Glu Asn Thr Val Phe Leu Leu			
210	215	220	
Leu Thr Ala Leu Ile His Asn Phe Tyr Lys Thr Ile Met Ser Arg Leu			
225	230	235	240
Asp Thr Lys Ala Phe Gly Leu Lys Lys Thr Ser Arg Ile Lys Ala Phe			
245	250	255	
Val Phe Arg Phe Ile Ser Val Pro Ala Lys Trp Ile Met Thr Ala Arg			
260	265	270	
Gln Tyr Val Leu Asn Ile Tyr Thr Glu Asn Arg Ala Tyr Ala Lys Pro			
275	280	285	
Phe Lys Thr Glu Phe Gly			
290			

&lt;210&gt; 7498

&lt;211&gt; 225

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7498

Pro Gln Asn Asp Met Thr Asn Asp Met Ile Gln Leu Leu Val Asn Thr			
1	5	10	15
Asp Gln Asn Leu Leu Tyr Leu Asn Gly Phe His Asn Ala Phe Gly			
20	25	30	
Asp Tyr Phe Met Ser Thr Phe Thr Gly Lys Trp Ile Trp Val Pro Met			
35	40	45	
Tyr Ala Ser Ile Leu Tyr Val Leu Leu Lys Asn Phe Asn Trp Lys Ile			
50	55	60	
Thr Leu Cys Cys Leu Thr Ala Ile Ala Leu Thr Ile Leu Phe Ala Asp			
65	70	75	80
Gln Val Cys Ala Ser Leu Ile Arg Pro Ala Val Glu Arg Leu Arg Pro			
85	90	95	
Ser Asn Pro Ala Asn Pro Ile Ser Asp Leu Val His Ile Val Asn Asn			
100	105	110	
Tyr Arg Gly Gly Arg Tyr Gly Phe Pro Ser Cys His Ala Ser Asn Ser			
115	120	125	
Phe Gly Leu Ala Phe Phe Leu Val Phe Leu Phe Arg Lys Arg Trp Leu			
130	135	140	
Ser Leu Phe Ile Leu Leu Trp Ala Thr Leu Asn Cys Tyr Thr Arg Ile			
145	150	155	160
Tyr Leu Gly Val His Tyr Pro Gly Asp Leu Ile Val Gly Ala Ile Ile			
165	170	175	
Gly Cys Cys Gly Ala Ala Phe Met Cys Tyr Leu Leu Lys Lys Thr Ala			
180	185	190	
Arg Gly Ala Ser Phe Gly Lys Val Lys His Thr Glu Ile Thr Ile Tyr			
195	200	205	
Val Gly Leu Leu Thr Thr Ile Gly Ile Val Val Tyr Ala Ser Ile Met			
210	215	220	

Ala

225

&lt;210&gt; 7499

&lt;211&gt; 231

<212> PRT  
 <213> B.fragilis

&lt;400&gt; 7499

Arg	Tyr	Arg	Glu	Gly	Arg	Tyr	Thr	Gly	Val	Gln	Asn	Glu	Ile	Thr	Asn
1			5					10					15		
Tyr	Lys	Leu	Lys	Thr	Thr	Met	Asp	Lys	Lys	Leu	Leu	Met	Met	Ala	Leu
			20					25				30			
Leu	Ile	Thr	Thr	Gly	Leu	Ala	Thr	His	Ala	Gln	Glu	Lys	Leu	Thr	Arg
			35					40			45				
Tyr	Gln	Val	Arg	Asn	Ala	Ile	Thr	Val	Arg	Thr	Pro	Ile	Met	Asn	Asp
			50					55			60				
Ser	Ile	Asn	Pro	Lys	Gly	Glu	Lys	His	Thr	Ala	Lys	Ala	Leu	Leu	Gln
			65					70			75		80		
Thr	Pro	Val	Val	Leu	Asp	Leu	Ala	Asn	Ala	Pro	Thr	Gln	Met	Thr	Ala
								85			90		95		
Ala	Asp	Thr	Ala	Gly	Leu	Val	Thr	Phe	Ala	Lys	Ala	Asp	Lys	Asp	Asn
			100					105			110				
Leu	Leu	Tyr	Leu	Ile	Lys	Thr	Gln	Leu	Arg	Ala	Glu	Arg	Phe	Met	Lys
			115					120			125				
Gly	Lys	Leu	Lys	Val	Thr	Ser	Pro	Val	Arg	Trp	Glu	Leu	Phe	Ile	Asn
			130					135			140				
Gly	Glu	Ser	Lys	Met	Val	Lys	Asp	Ala	Ser	Glu	Asp	Ser	Ile	Ser	Lys
			145					150			155		160		
Ala	Ala	Thr	Lys	Glu	Val	Ala	Leu	Arg	Leu	Glu	Pro	Glu	Met	Asp	Tyr
								165			170		175		
Glu	Ile	Ala	Ile	Lys	Leu	Leu	Ser	Thr	Pro	Asp	Asp	Lys	Thr	Val	Pro
								180			185		190		
Ser	Leu	Lys	Cys	Glu	Leu	Val	Lys	Asp	Asp	Lys	Phe	Lys	Glu	Val	Ala
			195					200			205				
Cys	Ser	Thr	Asp	Pro	Glu	Gln	Lys	His	Arg	Phe	Ser	Leu	Asp	Asn	Thr
			210					215			220				
Asn	Leu	Arg	Glu	Thr	Gly	Pro									
			225			230									

&lt;210&gt; 7500

&lt;211&gt; 166

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7500

Asn	Gly	Ala	Asp	Met	Glu	Thr	Gln	Asn	Val	Lys	Asp	Thr	Val	Arg	Gln
1				5					10			15			
Ile	Phe	Thr	Glu	Tyr	Leu	Asn	Ala	Asn	Gly	His	Arg	Lys	Thr	Pro	Glu
								20			25		30		
Arg	Tyr	Ala	Ile	Leu	Asp	Thr	Ile	Tyr	Ser	Ile	Asp	Gly	His	Phe	Asp
								35			40		45		
Ile	Asp	Met	Leu	Tyr	Ser	Gln	Met	Met	Asn	Gln	Glu	Asn	Phe	Arg	Val
								50			55		60		
Ser	Arg	Ala	Thr	Leu	Tyr	Asn	Thr	Ile	Ile	Leu	Leu	Ile	Asn	Ala	Arg
								65			70		75		80
Leu	Val	Ile	Lys	His	Gln	Phe	Gly	Thr	Ser	Ser	Gln	Tyr	Glu	Lys	Ser
								85			90		95		
Tyr	Asn	Arg	Glu	Thr	His	His	His	Gln	Ile	Cys	Thr	Gln	Cys	Gly	Lys
								100			105		110		
Val	Thr	Glu	Phe	Gln	Asn	Glu	Ala	Leu	Gln	Asn	Ala	Ile	Glu	Asn	Thr
								115			120		125		
Lys	Leu	Ser	Lys	Phe	Gln	Leu	Ser	His	Tyr	Ser	Leu	Tyr	Ile	Tyr	Gly
								130			135		140		

Ile Cys Ser Lys Cys Asp Arg Ala Asn Lys Arg Lys Arg Val Asn Asn  
 145 150 155 160  
 Asn Asn Lys Lys Glu Lys  
 165

<210> 7501

<211> 608

<212> PRT

<213> B.fragilis

<400> 7501

Lys Met Asn Glu Lys Tyr Gln Met Ile Gln Thr Leu Lys Thr Tyr Phe  
 1 5 10 15  
 Gly Tyr Asp Ser Phe Arg Pro Leu Gln Glu Glu Ile Ile His Asn Leu  
 20 25 30  
 Ile Ser Lys Lys Asp Ser Leu Val Leu Met Pro Thr Gly Gly Gly Lys  
 35 40 45  
 Ser Ile Cys Tyr Gln Leu Pro Ala Leu Leu Met Glu Gly Thr Ala Ile  
 50 55 60  
 Val Ile Ser Pro Leu Ile Ser Leu Met Lys Asp Gln Val Glu Thr Leu  
 65 70 75 80  
 Arg Ala Asn Gly Ile Pro Ala Gly Ala Leu Asn Ser Ser Asn Asp Glu  
 85 90 95  
 Thr Glu Asn Ala Asn Leu Arg Arg Ala Cys Ile Ser Gly Gln Leu Lys  
 100 105 110  
 Leu Leu Tyr Ile Ser Pro Glu Lys Leu Leu Ser Glu Ala Asp Tyr Leu  
 115 120 125  
 Leu Arg Asp Met Thr Leu Ser Leu Phe Ala Val Asp Glu Ala His Cys  
 130 135 140  
 Ile Ser Gln Trp Gly His Asp Phe Arg Pro Glu Tyr Ala Arg Met Gly  
 145 150 155 160  
 Phe Leu Arg Asn Gln Phe Pro Asn Val Pro Met Ile Ala Leu Thr Ala  
 165 170 175  
 Thr Ala Asp Lys Ile Thr Arg Glu Asp Ile Val Arg Gln Leu Gln Leu  
 180 185 190  
 Arg Gln Pro Gln Ile Phe Ile Ser Ser Phe Asp Arg Pro Asn Leu Ser  
 195 200 205  
 Leu Ser Val Lys Arg Gly Tyr Gln Pro Lys Glu Lys Ser Lys Ala Ile  
 210 215 220  
 Ile Asp Phe Ile Thr Arg His Arg Gly Glu Ser Gly Ile Val Tyr Cys  
 225 230 235 240  
 Met Ser Arg Ser Lys Thr Glu Thr Val Ala Gln Met Leu Gln Lys His  
 245 250 255  
 Gly Ile Arg Cys Gly Val Tyr His Ala Gly Leu Ser Ala Arg Gln Arg  
 260 265 270  
 Asp Glu Thr Gln Asp Asp Phe Ile Asn Asp Arg Ile Glu Val Val Cys  
 275 280 285  
 Ala Thr Ile Ala Phe Gly Met Gly Ile Asp Lys Ser Asn Val Arg Trp  
 290 295 300  
 Val Ile His Tyr Asn Leu Pro Lys Ser Ile Glu Ser Phe Tyr Gln Glu  
 305 310 315 320  
 Ile Gly Arg Ala Gly Arg Asp Gly Met Ala Ser Asp Thr Ile Leu Phe  
 325 330 335  
 Tyr Ser Leu Gly Asp Leu Ile Leu Leu Thr Lys Phe Ala Thr Glu Ser  
 340 345 350  
 Asn Gln Gln Asn Ile Asn Leu Glu Lys Leu Asn Arg Met Gln Gln Tyr  
 355 360 365  
 Ala Glu Ser Asp Ile Cys Arg Arg Arg Ile Leu Leu Ser Tyr Phe Gly  
 370 375 380

Glu Thr Thr Thr Glu Asp Cys Gly Asn Cys Asp Val Cys Arg Asn Pro  
 385                   390                   395                   400  
 Pro Glu Arg Phe Asp Gly Thr Ile Ile Val Gln Lys Ala Leu Ser Ala  
 405                   410                   415  
 Ile Ala Arg Thr Asn Gln Gln Val Ser Ile Thr Leu Leu Ile Asp Ile  
 420                   425                   430  
 Leu Arg Gly Asn Pro Thr Thr Glu Ile Thr Glu Lys Ala Tyr Thr Glu  
 435                   440                   445  
 Leu Lys Thr Phe Gly Ala Gly Arg Asp Ile Pro Ala Arg Asp Trp Gln  
 450                   455                   460  
 Asp Tyr Leu Leu Gln Met Leu Gln Met Gly Tyr Phe Glu Ile Ala Tyr  
 465                   470                   475                   480  
 Asn Glu Asn Asn His Leu Lys Ile Thr Gly Ser Gly Ser Asp Val Leu  
 485                   490                   495  
 Phe Gly Arg Glu Arg Ala Met Leu Val Val Ile Arg Arg Glu Glu Pro  
 500                   505                   510  
 Ala Thr Ala Lys Arg Arg Lys Lys Ser Ala Ala Thr Pro Thr Gln Ala  
 515                   520                   525  
 Trp Ala Glu Glu Ser Arg Ser Lys Glu Glu Asp Leu Phe Glu Ala Leu  
 530                   535                   540  
 Arg Ala Leu Arg Lys Gln Leu Ala Asp Gln Glu Ala Leu Pro Ala Tyr  
 545                   550                   555                   560  
 Ile Val Leu Ser Asp Lys Val Leu His Leu Leu Cys Leu Ser Arg Pro  
 565                   570                   575  
 Thr Thr Val Glu Ala Phe Gly Asn Ile Asn Gly Ile Gly Glu Tyr Lys  
 580                   585                   590  
 Lys Lys Lys Tyr Gly Lys Asp Phe Val Ala Leu Ile Arg Gln Phe Val  
 595                   600                   605

&lt;210&gt; 7502

&lt;211&gt; 194

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7502

Arg Asn Met Glu Leu Asp Glu Leu Lys Gln Lys Trp Thr Glu Leu Ser  
 1                   5                   10                   15  
 Glu Gln Val Glu Lys Asn Glu Leu Leu Asn Arg Gln Ile Ile Asp  
 20                   25                   30  
 Met Ile Gln Ser Lys Lys Glu Thr His Leu Gln Gln Leu Arg Val  
 35                   40                   45  
 Glu Lys Met Ala Phe Gly Val Leu Gly Ile Phe Leu Gly Ile Val Cys  
 50                   55                   60  
 Tyr Thr Phe Trp Arg Asn Val Ala Pro Gly Trp Ile Ser Trp Tyr Leu  
 65                   70                   75                   80  
 Leu Gly Met Val Ile Trp Leu Leu Leu Met Gln Thr Leu Met Phe Arg  
 85                   90                   95  
 Ile Ile Tyr Thr Leu Lys Thr Val Thr Glu His Val Glu Gln Gln Tyr  
 100                  105                  110  
 Lys Arg Leu Gln Ser Tyr Lys Val Leu Met Asn Leu Thr Tyr Ile Phe  
 115                  120                  125  
 Ser Tyr Val Ile Ile Thr Pro Val Ile Ile Ala Phe Phe Tyr Ile Trp  
 130                  135                  140  
 His Asn Pro Leu Phe Arg Thr Val Leu Cys Val Met Ile Leu Ala Gly  
 145                  150                  155                  160  
 Phe Leu Gly Asp Tyr Phe Ile Tyr His Lys Thr Gly Asp Arg Leu Lys  
 165                  170                  175  
 Gly Phe Arg Asp Ala Val Arg Ala Leu Gln Asp Leu Lys Ser Gly Lys  
 180                  185                  190

Gln Glu

&lt;210&gt; 7503

&lt;211&gt; 395

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7503

Ser Asp Lys Leu Tyr Ile Arg Tyr Asn Arg Lys Leu Gly Ser Gly Arg  
 1               5                   10                   15  
 Leu Arg Ser Met Lys Ile Arg Thr Ala Phe Phe Ile Phe Cys Ile Ser  
 20               25                   30  
 Leu Leu Leu Gly Ala Cys Ser Gln Val Ala Thr Glu Ser Arg Val Gln  
 35               40                   45  
 Ser Ile Ser Phe Glu Val Gly Ser Ser Met Ile Ala Asp Thr Phe Phe  
 50               55                   60  
 Leu Asp Ser Leu Phe Leu Phe Met Pro Glu Thr Asn Glu Glu Ala Leu  
 65               70                   75                   80  
 Ile Asn Asn Ile Asp Arg Val Tyr Glu Ser Asn Gly Arg Tyr Phe Ile  
 85               90                   95  
 Leu Asp Lys Arg Met Lys Gln Gly Ala Leu Tyr Thr Leu Phe Gly Lys  
 100              105                   110  
 His Leu Phe Thr Ile His Ala Val Gly Asn Gly Lys Gly Glu Tyr Val  
 115              120                   125  
 Asp Leu Phe Asp Ile Ala Ile Asp Glu Ala Glu Asn Lys Leu Leu Leu  
 130              135                   140  
 Leu Thr Tyr Pro Ser Gln Ile Leu Tyr Tyr Asp Leu Glu Gly Thr Tyr  
 145              150                   155                   160  
 Leu Ser Ser Tyr Pro Leu Asp Asp Met Tyr Gln Ser Phe Ala Val Asp  
 165              170                   175  
 Lys Gly Phe Ile Tyr Leu Arg Asn Asp Thr Tyr Ala Asn Gly Val Val  
 180              185                   190  
 Ser Asp Tyr Ser Leu Ile Val Ile Asn Lys Glu Thr Gly Lys Gln Thr  
 195              200                   205  
 Ser Leu Leu Glu Pro Leu Tyr Glu Thr Ala Pro Phe Cys Ser Ser Gly  
 210              215                   220  
 Asn Tyr Gln Ile Thr Asn Thr Ala Ser Val Leu Phe Thr Arg Lys Phe  
 225              230                   235                   240  
 Asp Asn His Ile Tyr Arg Ile Thr Gly Glu Ser Ile Glu Pro Leu Tyr  
 245              250                   255  
 Met Val Asp Trp Lys Asp Lys Ala Phe Pro Glu Ser Asp Lys Gln Arg  
 260              265                   270  
 Gln Phe Gln Cys Asn Asp Leu Asn Gln Phe Cys Tyr Gln Gly Lys Tyr  
 275              280                   285  
 Val Tyr Thr Met Thr Asp Leu Cys Asp Thr Pro Ser Tyr Leu Leu Phe  
 290              295                   300  
 Arg Thr Asn Gln Pro Gly Met Cys Leu Leu Ser Lys Ala Thr Ser Thr  
 305              310                   315                   320  
 Val Asn Asn Tyr Gln Val Ile Ile Asn Thr Asp Tyr Gln Leu Pro Leu  
 325              330                   335  
 Pro Asn Tyr Met Ser Val Glu Gly Lys Gln Ser Arg Ile Phe Phe Ile  
 340              345                   350  
 Tyr Ser Ser Glu Val Leu Cys Glu Gln Lys Lys Leu Ser Ala Glu Glu  
 355              360                   365  
 Asp Ile Asn Glu Lys Met Ser Ser Leu Leu Gly Gln Ile Lys Glu Gly  
 370              375                   380  
 Asp Asn Pro Val Ile Phe Thr Tyr His Val Lys  
 385              390                   395

<210> 7504  
<211> 624  
<212> PRT  
<213> B.fragilis

<400> 7504

Pro	Arg	Tyr	Trp	Asp	Asn	His	Ser	Leu	Lys	Arg	Ser	Arg	Thr	Tyr	Cys
1															
5															
10															
15															
Glu	Leu	Thr	Glu	Leu	Lys	Thr	Gly	Lys	Val	Leu	Leu	Thr	Asn	Leu	Arg
20															
25															
30															
Asp	Gly	Met	Arg	Trp	Met	Pro	Lys	Ser	Asn	Lys	Leu	Tyr	Tyr	Thr	Val
35															
40															
45															
Val	Ala	Pro	Glu	Gly	Asn	Asp	Val	Ile	Thr	Leu	Asp	Pro	Val	Thr	Leu
50															
55															
60															
Lys	Glu	Glu	Val	Leu	Leu	Arg	Gly	Ile	Pro	Glu	Gln	Gly	Phe	Ser	Trp
65															
70															
75															
80															
Ser	Pro	Asn	Glu	Asp	Phe	Leu	Ile	Tyr	Tyr	Pro	Arg	Glu	Gly	Val	
85															
90															
95															
Lys	Asp	Glu	Gly	Pro	Leu	Lys	Arg	Ile	Val	Ser	Pro	Ala	Asp	Arg	Ile
100															
105															
110															
Pro	Asn	Thr	Arg	Gly	Arg	Ser	Phe	Leu	Ala	Arg	Tyr	Asp	Ile	Ala	Ser
115															
120															
125															
Gly	Thr	Ser	Glu	Arg	Leu	Thr	Tyr	Gly	Asn	His	Ser	Thr	Tyr	Met	Gln
130															
135															
140															
Asp	Ile	Ser	Pro	Asp	Gly	Lys	Tyr	Leu	Leu	Tyr	Ser	Ser	Ser	Lys	Glu
145															
150															
155															
160															
Asn	Ile	Thr	Gln	Arg	Pro	Phe	Ser	Leu	Ser	Ser	Leu	Phe	Gln	Val	Asn
165															
170															
175															
Leu	Glu	Thr	Leu	Ala	Val	Asp	Thr	Leu	Phe	Phe	Glu	Asp	Arg	Phe	Leu
180															
185															
190															
Gly	Gly	Ala	Ser	Tyr	Ser	Pro	Asp	Gly	Lys	Gln	Leu	Leu	Leu	Thr	Ala
195															
200															
205															
Ser	Pro	Glu	Ala	Phe	Asp	Gly	Ile	Gly	Lys	Asn	Cys	Gly	Asn	His	Pro
210															
215															
220															
Ile	Ala	Asn	Asp	Phe	Asp	Ser	Gln	Ala	Phe	Ile	Met	Asp	Leu	Ala	Thr
225															
230															
235															
240															
Arg	Lys	Ile	Asp	Pro	Ile	Thr	Lys	Glu	Phe	Asn	Pro	Ser	Val	Asn	Phe
245															
250															
255															
Leu	Gln	Trp	Asn	Lys	Gly	Asp	Gly	Cys	Ile	Tyr	Phe	Ser	Thr	Asn	Asp
260															
265															
270															
Glu	Asp	Cys	Arg	Asn	Ile	Tyr	Arg	Tyr	Ser	Pro	Lys	Asp	Arg	Lys	Phe
275															
280															
285															
Glu	Lys	Leu	Asn	Leu	Glu	Thr	Asp	Val	Thr	Ser	Ala	Phe	Ala	Met	Ser
290															
295															
300															
Glu	Asn	Asn	Pro	Ser	Leu	Ala	Tyr	Ile	Gly	Gln	Gly	Cys	Tyr	Asn	
305															
310															
315															
320															
Ala	Gly	Val	Ala	Tyr	Val	Tyr	Asp	Leu	Lys	Lys	Lys	Thr	Ser	Arg	Leu
325															
330															
335															
Ile	Ala	Asp	Pro	Met	Lys	Pro	Thr	Leu	Glu	Lys	Ile	Glu	Leu	Gly	Glu
340															
345															
350															
Met	Lys	Pro	Trp	Asn	Phe	Thr	Ala	Ser	Asp	Gly	Thr	Glu	Ile	Lys	Gly
355															
360															
365															
Met	Met	Cys	Leu	Pro	Pro	Ser	Phe</td								

Val Ile Gln Pro Ser Gly Thr Ile Gly Phe Gly Gln Glu Phe Ser Ala  
     420                  425                  430  
 Arg His Val Asn Ala Trp Gly Lys Arg Thr Ala Asp Asp Ile Ile Glu  
     435                  440                  445  
 Gly Thr Lys Gln Phe Cys Lys Glu His Pro Phe Val Asn Asp Lys Lys  
     450                  455                  460  
 Ile Gly Cys Leu Gly Ala Ser Tyr Gly Gly Phe Met Thr Gln Tyr Leu  
     465                  470                  475                  480  
 Gln Thr Gln Thr Asp Ile Phe Ala Ala Ala Val Ser His Ala Gly Ile  
     485                  490                  495  
 Ser Asn Val Thr Ser Tyr Trp Gly Glu Gly Tyr Trp Gly Tyr Gly Tyr  
     500                  505                  510  
 Asn Ala Ile Ala Ala Ala Asp Ser Tyr Pro Trp Asn Asn Pro Glu Leu  
     515                  520                  525  
 Phe Thr Lys Gln Gly Ser Leu Phe Asn Ala Asp Lys Ile Asn Thr Pro  
     530                  535                  540  
 Leu Leu Leu His Gly Thr Val Asp Thr Asn Val Pro Ile Gly Glu  
     545                  550                  555                  560  
 Ser Ile Gln Leu Phe Asn Ala Leu Lys Ile Leu Gly Lys Thr Val Glu  
     565                  570                  575  
 Phe Ile Thr Val Asp Gly Glu Asn His Phe Ile Ala Asp Tyr Pro Lys  
     580                  585                  590  
 Arg Val Gln Trp His Asn Ser Ile Met Ala Trp Phe Ala Arg Trp Leu  
     595                  600                  605  
 Gln Asp Ser Pro Gln Trp Trp Glu Asp Met Tyr Pro Glu Arg His Leu  
     610                  615                  620

<210> 7505

<211> 276

<212> PRT

<213> B.fragilis

<400> 7505

Lys Asn Cys Trp Met Gly Asp Val Thr Leu Thr Ile Val Ala Glu Lys  
 1                  5                  10                  15  
 Phe Gln Gln Pro Ala Thr Asp Glu Gly Lys Leu Glu Glu Asn Leu Ser  
     20                  25                  30  
 Thr Arg Ile Asn Ser Ile Arg Tyr Tyr Leu Tyr Lys Asp Asn Val Leu  
     35                  40                  45  
 Ile His Ser Gly Ile Ile Asp Asn Val Thr Asp Leu Asn Thr Asp Ala  
     50                  55                  60  
 Tyr Lys Leu Thr Phe Pro Lys Leu Ala Phe Gly Asp Tyr Cys Leu Ala  
     65                  70                  75                  80  
 Leu Ala Thr Asn Val Ser Glu Glu Glu Leu Pro Asp Thr Thr Pro  
     85                  90                  95  
 Glu Ala Leu Asn Leu Asn Tyr Pro Gly Ile Glu Gln Thr Lys Asp Tyr  
     100                  105                  110  
 Phe Thr Ser Cys Tyr Asp Phe Thr Val Asp Cys Glu Cys Gly Tyr Gln  
     115                  120                  125  
 Asp Phe Val Ile Leu Arg Arg Thr Gln Gly Val Thr Gln Phe Gln Leu  
     130                  135                  140  
 Lys Gln Leu Pro Glu Asn Ile Thr Gly Ile Gly Ile Glu Ile His Lys  
     145                  150                  155                  160  
 Val Ala Ala Thr Cys Gln Ile Asp Thr Leu Tyr Lys Gly Glu Thr Ile  
     165                  170                  175  
 Ala Glu Tyr His Thr Thr Val Ala Glu Val Thr Asn Ala Glu Glu Val  
     180                  185                  190  
 Ala Asp Phe Ser Ile Gly Thr Phe Pro Thr Ser Gly Pro Glu Asn Ala  
     195                  200                  205

Ser Ile Thr Leu Lys Leu Tyr Ala Asp Asp His Ser Gly Ser Pro Ile  
 210 215 220  
 Tyr Gln Lys Thr Leu Asn Asn Ile Ser Ile Leu Arg Asn Gln Leu Thr  
 225 230 235 240  
 Arg Ile Ser Thr Asp Phe Asn His Ser Ile Leu Gly Asn Ser Gly Phe  
 245 250 255  
 Ser Ile Ala Ile Asn Pro Asp Trp Asp Gly Ile His Asp Asp Asp Glu  
 260 265 270  
 Thr Ile Ile Pro  
 275

<210> 7506  
 <211> 273  
 <212> PRT  
 <213> B.fragilis

<400> 7506  
 Met Pro Asn Arg Phe Ser Arg Thr Leu Glu Ser Val Tyr Asp Asp Tyr  
 1 5 10 15  
 Ala Ala Ala Thr Met Ala Gly Leu Met Gly Lys Lys Glu Asp Ala Glu  
 20 25 30  
 Tyr Phe Gly Lys Arg Ser Glu Phe Tyr Lys Asn Leu Phe Asp Lys Glu  
 35 40 45  
 Thr Gln Phe Met Arg Pro Arg Tyr Ala Asp Gly Arg Trp Lys Thr Pro  
 50 55 60  
 Phe Asn Pro Ser Asp Leu Ala His Ala Glu Ser Arg Gly Gly Asp Tyr  
 65 70 75 80  
 Thr Glu Gly Asn Ala Trp Gln Tyr Thr Trp His Val Gln His Asp Val  
 85 90 95  
 Pro Gly Leu Ile Glu Leu Phe Gly Gly Lys Glu Val Phe Leu Asn Lys  
 100 105 110  
 Leu Asp Ser Leu Phe Thr Ile Glu Leu Lys Gly Ser Gly Leu Ala Asp  
 115 120 125  
 Val Thr Gly Leu Ile Gly Gln Tyr Ala His Gly Asn Glu Pro Ser His  
 130 135 140  
 His Val Thr Phe Leu Tyr Ala Leu Ala Gly Lys Pro Glu Arg Thr Gln  
 145 150 155 160  
 Glu Leu Ile Arg Glu Ile Phe Asp Thr Gln Tyr Lys Asn Lys Pro Asp  
 165 170 175  
 Gly Leu Cys Gly Asn Asp Asp Cys Gly Gln Met Ser Ala Trp Tyr Met  
 180 185 190  
 Phe Asn Ala Met Gly Phe Tyr Pro Val Asp Pro Val Ser Gly His Tyr  
 195 200 205  
 Val Phe Gly Ala Pro Gln Met Pro Lys Ile Val Leu His Leu Pro Asp  
 210 215 220  
 Gly Lys Thr Phe Thr Val Ile Ala Glu Asn Leu Ser Lys Glu His Lys  
 225 230 235 240  
 Tyr Ile Asp Ser Ile Thr Leu Asn Gly Glu Pro Tyr Thr Lys Asn Tyr  
 245 250 255  
 Ile Ser His Glu Asp Ile Val Lys Gly Gly Thr Leu Val Tyr Lys Met  
 260 265 270  
 Lys

<210> 7507  
 <211> 345  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7507

Lys Lys Lys Leu Leu Ser Glu Thr Glu Ala Ala Phe Leu Leu Ala Thr  
 1 5 10 15  
 Ala Asp Ile Ala Trp Asn Ala Leu Ser Arg Leu Tyr Asn Cys Val His  
 20 25 30  
 Ser Tyr Ile Gln Ser Lys Thr Asn Leu Tyr Met Lys Thr His Leu Ile  
 35 40 45  
 Phe Leu Trp Phe Ile Thr Phe Gly Val Met Ala Cys Thr Ser Gln Pro  
 50 55 60  
 Gly Ile Asn Thr Gly Glu Asn Lys Val Glu Gly Asp Thr Ile Pro Val  
 65 70 75 80  
 Leu Asp Phe Ala Ser Ala Ile His Lys Gln Val Pro Asp Thr Phe Met  
 85 90 95  
 Trp Asn Ser Val Ala Arg Lys Ile Thr Tyr Ile Pro Leu Ala Ser Ser  
 100 105 110  
 His Leu Met Asp Gly His Pro Val Ile Glu Tyr Leu Asp Asp Asp Met  
 115 120 125  
 Cys Ile Ile Met Glu Gly Lys Ser Gln Trp Ile Asn Cys Val Asp Tyr  
 130 135 140  
 Lys Gly Asn Phe Leu Ser Thr Phe Arg His Val Gly Asn Gly Pro Gly  
 145 150 155 160  
 Glu Tyr Val Asn Leu Ser Ser Val Val Tyr His Ser Lys Asp Ser Thr  
 165 170 175  
 Ile Arg Ile Phe Asp Asn Gly Ser Tyr Lys His Ile Ile Tyr Asn Lys  
 180 185 190  
 Gln Gly Lys Phe Leu Arg Glu Ile Ser Leu Ala Asp Ser Glu Phe Asn  
 195 200 205  
 Tyr Leu Leu His Met Gln Ser Asp Thr Tyr Phe Arg Gly Ser Phe  
 210 215 220  
 Ser Lys Gly Lys Ser Glu Ile Ile Val Thr Asp Thr Thr Leu Arg Val  
 225 230 235 240  
 Lys Phe Pro Ile Leu Pro Phe Asp Ser Thr Ala Asp Tyr Ile Thr Arg  
 245 250 255  
 Gly Ala Ile Met Leu Asn Thr Thr Gly Glu Glu Cys Ala Pro Asp Ile  
 260 265 270  
 Cys Leu Phe Asn His Ile Tyr Ser Asp Ser Val Phe Leu Leu Thr Pro  
 275 280 285  
 Asp Gly Leu Lys Leu Asp Phe Ile Leu Arg Lys Gly Lys Tyr Ala Pro  
 290 295 300  
 Ser Leu Glu Asp Val Lys Gln Phe Met Lys Trp Asn Gln Tyr Asp Pro  
 305 310 315 320  
 Phe Ile Lys Gly Leu Phe Ile Leu Lys Ser Ala Thr Ile Ile Gln Tyr  
 325 330 335  
 Thr Ile Lys Gly Arg Phe Met Ser Arg  
 340 345

&lt;210&gt; 7508

<211> 389  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 7508

Lys Ser Ile Arg Ile Phe Leu Pro Asn Pro Met Thr Met Lys Arg Tyr  
 1 5 10 15  
 Ile Arg Gln Ile Leu Leu Gly Thr Leu Leu Gly Ser Ala Cys Thr  
 20 25 30  
 Asn His Gln Glu Val Ile Glu Glu Asp Thr Ser Val Ser Val Val Phe  
 35 40 45  
 Lys Thr Arg Gln Leu Pro Ser Thr Lys Gly Glu Asn Asp Asp Glu Ile

50	55	60
Ser Val Leu Ile Phe Arg Lys Glu Lys Asp Gln Phe Thr Lys Val Glu		
65	70	75
Ser Ile Gln Glu Ser Pro Trp Leu Phe Glu Gln Glu Gln Leu Gln Lys		80
85	90	95
Asn Ile Leu Leu Pro Thr Gly Ile Tyr Arg Phe Leu Leu Ala Lys Gly		
100	105	110
Phe Ser Asn Ser Pro Gly Asn Ser Gly Lys Ile Ser Phe Val Thr Asp		
. 115	120	125
Asn Asn Pro Gly Asn Leu Val Ser Thr Ser Tyr Asp Arg Asn Tyr Tyr		
130	135	140
Phe Gln Tyr Pro Thr Arg Thr Leu Asn Gly Gln Thr Glu Leu Asn His		
145	150	155
Cys Thr Thr Ala Leu Phe Thr Asp Lys Asn Glu Glu Ser Ala Gln Asn		160
165	170	175
Ser Gln Thr Glu Tyr Asp Leu Ser Gln Thr Asn Arg Thr Leu Ile Ala		
180	185	190
Arg Lys Ile Ser His Leu Gln Gly Gln Leu Cys Phe Ile Ile Gln Arg		
195	200	205
Ala Lys Lys Glu Asn Gly Gln Tyr Thr Leu Ile Asp Ser Pro Glu Asn		
210	215	220
Ser Phe Asp Asn Ala Leu Lys Lys Ile Ser Ala Ile Asn Leu Thr Ile		
225	230	235
Glu Gly Ser Ser Gln Cys Cys Tyr Leu Ser Glu Thr Gly Leu Ile Phe		
245	250	255
Lys Ser Pro Met Ser Tyr His Cys Leu Val Gln Leu Gln Asn Gly Asp		
260	265	270
Tyr Ser Phe Lys Arg Phe Asp Ala Asp Gln Phe Val Ser Leu Phe Ser		
275	280	285
Pro Ile Ile Glu Lys Thr Asp Tyr Gln Arg Tyr Glu Gly Ala Ala Tyr		
290	295	300
Cys Glu Gly Pro Leu Leu Phe Pro Ala Pro Leu Asp Gln Thr Ile Arg		
305	310	315
Val Thr Ile Asp Ile Asp Tyr Thr Gly Thr Leu Lys Asn Lys Thr Phe		
325	330	335
Thr Leu Glu Asn Ile Pro Leu Glu Arg Asn Lys Met Tyr Leu Phe Thr		
340	345	350
Leu Trp Leu Leu Asn Glu Asp Val Asp Ile Ser Ile Ser Pro Asp Ala		
355	360	365
Asp Leu Asp Leu Glu Glu Leu Lys Phe Asn Asn Gln Ile Thr Gly Asn		
370	375	380
Asp Gly Phe Trp Asn		
385		

&lt;210&gt; 7509

&lt;211&gt; 506

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7509

Phe Ile Ser Arg Tyr Ser Phe Leu Ile Lys Asp Thr Val Ser Gly Gln		
1	5	10
Asn His Leu His Ser His Ile Phe Ile Lys Ile Ile Leu Leu Pro Ile		15
20	25	30
Lys Tyr Glu Lys Ser Leu Phe Ser Ser Leu Tyr Ile Thr Leu Ser His		
35	40	45
Ile Ala Ser Val Arg Gly Lys Ser Val Ala Tyr Leu Ile Asn Lys Leu		
50	55	60
Phe Ser Asn Tyr Phe Pro Glu Ala Leu Gln Ala Gln His Ser Tyr Phe		

65	70	75	80												
Lys	Leu	Ile	Pro	Thr	Ser	Ser	Glu	Gly	Gly	Asp	Arg	Pro	Arg	Pro	Asp
85							90							95	
His	Ser	Leu	Lys	Lys	Gln	Gln	Ile	Leu	Asn	Ile	Met	Lys	Ser	Phe	Lys
100							105					110			
Ile	Met	Leu	Ile	Thr	Val	Leu	Ser	Val	Met	Thr	Leu	Ser	Cys	Ser	Glu
115							120					125			
Lys	Thr	Thr	Thr	Glu	Ile	Pro	Glu	Thr	Glu	Leu	Lys	Asn	Ile	Ser	Cys
130						135					140				
Ser	Thr	Gln	Leu	Val	Thr	His	Ser	Ser	Ala	Gln	Thr	Arg	Gly	Ala	Ala
145						150				155			160		
Pro	Thr	Thr	Leu	Asn	Glu	Asn	Asp	Phe	Val	Leu	Tyr	Ala	Phe	Lys	Lys
165							170					175			
Asn	Gly	Glu	Gly	Asn	Phe	Ser	Tyr	Glu	Glu	Ala	Lys	His	Glu	Thr	Ser
180							185					190			
Val	Ile	Asp	Gly	Gly	Val	Trp	Lys	Tyr	Asn	Ala	Ala	Phe	Pro	Val	Gly
195							200					205			
Thr	Tyr	Lys	Phe	Ile	Ala	Phe	Tyr	Asn	Leu	Asp	Glu	Lys	Asn	Gln	Ala
210						215					220				
Ala	Leu	Asn	Thr	Thr	Ile	Thr	Gly	Ile	Ser	Asn	Gln	Thr	Trp	Glu	Asn
225						230				235			240		
Ile	Leu	Lys	Ser	Ile	Val	Ile	Thr	His	Phe	Pro	Ser	Ala	Thr	Asp	Gln
245							250					255			
Tyr	His	Glu	Asp	Met	Asn	Glu	Ile	Phe	Cys	Gly	Lys	Thr	Lys	Asp	Ala
260							265					270			
Ile	Asp	Ile	Ser	Ser	Gly	Val	Gly	Gly	Asp	Asp	Asn	Glu	Ile	Lys	Ile
275							280					285			
Lys	Leu	Thr	Leu	Glu	Arg	Ile	Val	Ser	Arg	Ile	Asp	Ile	Lys	Phe	Ile
290							295					300			
Lys	Val	Ala	Ser	Asp	Asp	Asp	His	Ile	Glu	Val	Pro	Tyr	Ala	Thr	Gly
305							310				315			320	
Asn	Ile	Phe	Gly	Gly	Thr	Gly	Thr	Thr	Ser	Leu	Thr	Ser	Leu	Ile	Phe
325								330					335		
Thr	Ser	Ser	Asn	Val	Pro	Leu	Lys	Tyr	Asn	Leu	Asn	Gly	Glu	Asn	Pro
340								345					350		
Asp	Tyr	Val	Thr	Gly	Val	Gln	Cys	Gln	Val	Thr	Tyr	Ala	Ala	Pro	Ser
355								360					365		
Phe	Gln	Tyr	Gly	Glu	Ala	Asn	Ala	Asp	Ala	Val	Lys	Ala	Leu	Asp	Tyr
370								375					380		
Gln	Pro	Phe	Pro	Lys	Asn	Ala	Asp	Ala	Ile	Asn	Asn	Asn	Met	Glu	Thr
385								390				395			400
Asn	Ile	Lys	Lys	Gly	Ile	Ala	Lys	Gly	Gly	Ala	Tyr	Phe	Met	Gly	Ser
405								410					415		
Tyr	Leu	Leu	Pro	Phe	Pro	Ser	Ser	Ser	Gln	Thr	Leu	Asn	Ala	Asn	Ile
420								425					430		
Gln	Leu	Asn	Lys	Ala	Asn	Gln	Glu	Arg	Thr	Ile	Lys	Val	Pro	Gly	Phe
435								440					445		
Thr	Val	Thr	Ser	Asn	Tyr	Val	Ser	Ile	Ile	Thr	Val	Arg	Leu	Lys	Ser
450								455				460			
Ser	Thr	Asp	Ala	Gly	Asp	Asn	Asn	Asn	Gly	Asn	Asp	Asp	Glu	His	Leu
465								470				475			480
Phe	Asn	Pro	Lys	Ser	Thr	Phe	Ile	Val	Glu	Ile	Glu	Lys	Thr	Tyr	Asp
485								490					495		
Gly	Ile	His	Asn	Thr	Asn	Val	Asp	Val	Glu						
500								505							

&lt;210&gt; 7510

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7510

Leu	Arg	Asn	Arg	Leu	Glu	Met	Gly	Leu	Lys	Asn	Asn	Asn	Lys	Asn	Met
1				5				10							15
Met	Lys	Asn	Lys	Leu	Leu	Ser	Ile	Trp	Ile	Gly	Cys	Gly	Ser	Val	Leu
				20				25							30
Cys	Ser	Tyr	Thr	Ser	Cys	Ser	Lys	Glu	Met	Glu	Phe	Ile	Asp	Ser	Pro
				35			40								45
Asn	Glu	Gln	Val	Thr	Ile	Gln	Leu	Thr	Thr	Ile	Asp	Gly	Gln	Gly	
				50			55								60
Phe	Ser	Thr	Asp	Asn	Glu	Ile	Ile	Pro	Met	Lys	Thr	Arg	Ser	Thr	Arg
				65			70			75					80
Ser	Thr	Asp	Tyr	Tyr	Val	Thr	Ala	Ile	Tyr	Asp	Ser	Arg	Leu	Val	Ile
				85			90								95
Ile	Lys	Glu	Thr	Gly	Gln	Ser	Ala	Trp	Ser	Ile	Glu	Lys	Ile	Glu	Asp
				100			105								110
Asn	Val	Ile	Pro	Gln	Gly	Tyr	Ile	Lys	Ser	Ser	Asp	Ala	Cys	Lys	Tyr
				115			120								125
Thr	Met	Gln	Thr	Thr	Leu	Arg	Pro	Gly	Asn	Tyr	Lys	Phe	Met	Leu	Leu
				130			135								140
Val	Asn	Gly	Pro	Lys	Asn	Glu	Ala	Leu	His	Leu	Tyr	Gln	Asn	Phe	Ser
				145			150			155					160
Glu	Glu	Asp	Val	Pro	Trp	Leu	Thr	Asp	Thr	Glu	Lys	Asp	Tyr	Ser	Gly
				165			170								175
Tyr	Glu	Ile	Phe	Phe	Ala	Thr	Ser	Gly	Ile	Val	Thr	Ile	Lys	Lys	Thr
				180			185								190
Asp	Arg	Leu	Glu	Glu	Ser	Gly	Gln	Tyr	His	Pro	Leu	Pro	Thr	Pro	Leu
				195			200								205
Val	Leu	Lys	Arg	Tyr	Ser	Ser	Leu	Ile	Arg	Leu	Cys	Ala	Thr	Gly	Asp
				210			215								220
Gly	Phe	Trp	Gly	Ser	Leu	Glu	Arg	Ala	Thr	Asp	Ile	Ser	Tyr	Ser	Ile
				225			230			235					240
Lys	Glu	Gln	Ser	Ile	Asn	Gly	Ile	Asn	Leu	Leu	Gly	Gln	Ile	Val	Ser
				245			250								255
Lys	Asp	Thr	Glu	Leu	Ser	Phe	Gly	Thr	Leu	Thr	Ala	Ser	Ile	Arg	Lys
				260			265								270
Asn	Phe	Glu	Cys	Gln	Leu	Gly	Asp	Lys	Lys	Leu	Phe	Phe	Ser	Tyr	Phe
				275			280								285
Gly	Asp	Glu	Asp	Glu	Ala	Lys	Gln	Leu	Gln	Asn	Ile	Leu	Thr	Pro	Ser
				290			295								300
Asp	Gly	Lys	Asp	Ile	Thr	Val	Thr	Ile	Phe	Gln	Lys	Glu	Lys	Gln	Thr
				305			310			315					320
Pro	Pro	Ile	Glu	Thr	Thr	Thr	Gln	Ala	Lys	Pro	Asn	Gln	Val	Thr	Thr
				325			330			330					335
Leu	Ile	Leu	Asp	Lys	Thr	Glu	Ser	Val	Leu	Asp	Trp	Asn	Gln	Pro	Pro
				340			345								350
Ile	Ile	Gly	Thr	Pro	Ile	Asp	Trp	Asp	Pro	Asp	Asn	Ile	Pro	Trp	Gly
				355			360								365
His	Leu	Glu	Leu	Asn	Phe	Leu									
				370			375								

&lt;210&gt; 7511

&lt;211&gt; 297

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7511

Leu Ile Cys Gly Met Asn Lys Glu Ile Leu Lys Arg Leu Leu Ala Lys

1	5	10	15		
Pro	Gly	Glu	Glu		
		His	Ser		
		Val	Ser		
		Glu	Phe		
			Asp		
			Ala		
			Arg		
			Tyr		
			Thr		
			Gly		
		20	25	30	
Asp	Leu	Thr	Lys	Ser	
			Glu	Ala	
			Glu	Ala	
			Leu	Leu	
			Ala	Glu	
			Asn	Ile	
		35	40	45	
Lys	Leu	Ser	Ser	Leu	
			Gln	Asp	
			Lys	Leu	
			Tyr	Ala	
			Gln	Asp	
			Arg	Tyr	
		50	55	60	
Val	Leu	Val	Ile	Phe	
			Gln	Ala	
			Met	Asp	
			Ala	Ala	
			Gly	Lys	
			Asp	Gly	
		65	70	75	80
Ile	Lys	His	Val	Met	
			Ser	Gly	
			Ile	Asn	
			Pro	Gln	
			Gly	Cys	
			Gln	Val	
			Tyr		
		85	90	95	
Ser	Phe	Lys	Gln	Pro	
			Ser	Ala	
			Glu	Leu	
			Asp	Asp	
			Tyr	Leu	
		100	105	110	
Arg	Ile	Asn	Arg	Cys	
			Leu	Pro	
			Glu	Arg	
			Gly	Arg	
			Ile	Gly	
		115	120	125	
Arg	Ser	His	Tyr	Glu	
			Asp	Val	
			Leu	Val	
			Ala	Lys	
			Val	His	
		130	135	140	
Val	Leu	Ser	Ala	Lys	
			Leu	Pro	
			Gly	Ile	
			Met	Gly	
		145	150	155	160
Pro	Lys	Phe	Trp	Lys	
			Lys	Arg	
			Tyr	Arg	
			Gln	Ile	
			Asn	Asp	
		165	170	175	
Tyr	Leu	Thr	Glu	Asn	
			Gly	Gly	
			Thr	Val	
			Ile	Ile	
			Lys	Phe	
		180	185	190	
Ser	Lys	Glu	Glu	Gln	
			Lys	Lys	
			Arg	Arg	
			Phe	Leu	
		195	200	205	
Ala	Lys	Asn	Trp	Lys	
			Phe	Ser	
			Val	Ser	
			Asp	Leu	
		210	215	220	
Trp	Asp	Asp	Tyr	Met	
			Lys	Ala	
			Tyr	Ser	
		225	230	235	240
Thr	Glu	Glu	Ala	Pro	
			Trp	Tyr	
			Val	Ile	
			Pro	Ala	
		245	250	255	
Met	Arg	Tyr	Ala	Val	
			Gly	Gln	
			Ile	Leu	
		260	265	270	
Asp	Leu	His	Tyr	Pro	
			Glu	Met	
			Val	Pro	
		275	280	285	
Asp	Phe	Lys	Arg	Ala	
			Leu	Asn	
		290	295		

&lt;210&gt; 7512

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7512

1	5	10	15	
Tyr	Ser	Lys	Asn	
		Ser	Asn	
		Asn	Thr	
			Asn	
			Gln	
			Tyr	
			Gly	
		20	25	30
Leu	Arg	Gly	Gln	Asn
			Asn	Val
			Phe	Ala
			Tyr	Arg
		35	40	45
Cys	Phe	Gly	Val	Arg
			Val	Val
			Ile	Asn
			Cys	Thr
		50	55	60
Trp	Val	Pro	Val	Asp
		65		

&lt;210&gt; 7513

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7513

Lys	Val	Thr	Met	Asn	Ile	Lys	Pro	Leu	Ala	Asp	Arg	Val	Leu	Ile	Leu
1					5				10					15	
Pro	Ala	Pro	Ala	Glu	Glu	Lys	Thr	Ile	Gly	Gly	Ile	Ile	Ile	Pro	Asp
					20			25					30		
Thr	Ala	Lys	Glu	Lys	Pro	Leu	Lys	Gly	Glu	Val	Val	Ala	Val	Gly	His
					35			40				45			
Gly	Thr	Lys	Asp	Glu	Glu	Met	Val	Leu	Lys	Ala	Gly	Asp	Thr	Val	Leu
					50			55			60				
Tyr	Gly	Lys	Tyr	Ala	Gly	Thr	Glu	Leu	Glu	Val	Glu	Gly	Lys	Lys	Tyr
					65			70		75			80		
Leu	Ile	Met	Arg	Gln	Ser	Asp	Val	Leu	Ala	Val	Leu	Gly			
					85			90							

&lt;210&gt; 7514

<211> 422  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7514

Ile	Lys	Leu	Ile	Ser	Asn	Lys	Lys	His	Met	Lys	Thr	Ile	Thr	Leu	Ile
1						5			10				15		
Ile	Thr	Leu	Leu	Cys	Leu	Ser	Leu	Ser	Gly	Ile	Ala	Gln	Asn	Asn	Ala
					20			25			30				
Lys	Lys	Glu	Phe	Glu	Lys	Lys	Tyr	Gly	Ala	Leu	Val	Lys	Glu	Ile	Met
					35			40			45				
Asn	Val	Arg	Glu	Gln	Lys	Asp	Tyr	Lys	Lys	Ala	Glu	Lys	Leu	Asn	Trp
					50			55			60				
Glu	Ile	Leu	Lys	Leu	Tyr	Asp	Ala	Leu	Pro	Gln	Thr	Leu	Gln	Glu	Arg
					65			70		75			80		
Ala	Arg	Gln	Ile	Ala	Gly	Leu	Thr	Tyr	Tyr	Asp	Leu	Ala	Cys	Tyr	Gln
					85			90			95				
Ser	Leu	Gln	Gly	Lys	Lys	Ala	Ala	Leu	Asn	Asn	Leu	Glu	Lys	Ala	
					100			105			110				
Phe	Ala	Asn	Gly	Trp	Ser	Asn	Tyr	Asn	His	Ala	Lys	Ser	Asp	Ser	Asp
					115			120			125				
Leu	Asp	Asn	Leu	Arg	Lys	Glu	Lys	Arg	Tyr	Leu	Glu	Val	Leu	Ser	Lys
					130			135			140				
Met	Arg	Leu	Asp	Ser	Asp	Tyr	Leu	Tyr	Ile	Leu	Gln	Gln	Ala	Asn	Gly
					145			150			155			160	
Tyr	Asn	Arg	Thr	Glu	Thr	Lys	Pro	Val	Cys	His	Asn	Glu	Ser	Leu	Thr
					165			170			175				
Asp	Thr	Leu	Pro	Arg	Phe	Thr	Tyr	Met	Asn	Pro	Asn	Asp	Ser	Asn	Leu
					180			185			190				
Val	Tyr	Leu	Arg	Lys	His	Phe	Asn	Leu	Asp	Ser	Ile	Ala	Gly	Ser	Gly
					195			200			205				
Asp	Glu	Ile	Ser	Lys	Ile	Lys	Asn	Leu	Leu	Tyr	Trp	Val	His	Asn	Ile
					210			215			220				
Val	Pro	His	Asp	Gly	Asn	Ser	Arg	Asn	Pro	Glu	Glu	Gln	Asn	Thr	Ile
					225			230			235			240	
Ala	Met	Val	Glu	Leu	Cys	Gln	Lys	Glu	Lys	Arg	Gly	Val	Asn	Cys	Arg
					245			250			255				
Met	Met	Ala	Gln	Met	Leu	Asn	Glu	Cys	Tyr	Leu	Ala	Met	Gly	Phe	Lys
					260			265			270				
Ser	Arg	Tyr	Ile	Thr	Cys	Met	Pro	Lys	Val	Met	Ile	Asn	Asp	Cys	His
					275			280			285				
Val	Ile	Asn	Ala	Val	Tyr	Ser	Asn	Thr	Leu	Asp	Lys	Trp	Leu	Trp	Met
					290			295			300				

Asp Pro Thr Phe Asn Ala Tyr Val Thr Asp Glu Lys Gly Asn Leu Leu  
 305 310 315 320  
 Gly Ile Gly Glu Val Arg Glu Arg Leu Arg Lys Asn Glu Pro Ile Val  
 325 330 335  
 Leu Asn Glu Asp Ala Asn Trp Asn Asn Lys Asn Lys Gln Thr Lys Glu  
 340 345 350  
 Tyr Tyr Leu Asp Tyr Tyr Met Ala Lys Asn Leu Tyr Tyr Val Thr Cys  
 355 360 365  
 Pro Leu Arg Ser Glu Tyr Asn Ala Glu Thr Asn Tyr Pro Gly Lys Lys  
 370 375 380  
 Trp Ser Met His Ile Ser Leu Val Pro Glu Gly Tyr Ser Thr Asn Gly  
 385 390 395 400  
 Lys Ser Gly Ala Thr Pro Tyr Asp Ser His Asn Asp Leu Tyr Phe Trp  
 405 410 415  
 Gln Ser Pro Tyr Gln Glu  
 420

&lt;210&gt; 7515

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7515

Tyr Phe Ile Ile Phe Ala Phe Asn Ile Leu Phe Met Asn Arg Lys Thr  
 1 5 10 15  
 Ile Met Ile Pro Phe Arg Glu Arg Glu Gly Val Arg Arg Lys Phe Leu  
 20 25 30  
 Phe Leu Leu Phe Ser Cys Leu Leu Ser Val Ser Leu Ser Ala Gln Thr  
 35 40 45  
 Tyr Gln Glu Leu Ser Glu Lys Ala Val Glu Cys Val Gly Lys Asp Ser  
 50 55 60  
 Leu Val Gln Ala Glu Asp Leu Leu Lys Gln Ala Leu Lys Leu Glu Pro  
 65 70 75 80  
 Lys Asn Ala His Asn Ala Leu Leu Phe Ser Asn Leu Gly Leu Val Gln  
 85 90 95  
 Arg Lys Leu Gly Arg Tyr Asn Asp Ala Val Glu Ser Tyr Thr Tyr Ala  
 100 105 110  
 Leu Asn Ile Ala Pro Leu Ala Val Pro Ile Leu Leu Asn Arg Ala Ala  
 115 120 125  
 Ile Tyr Leu Glu Gln Gly Met Gln Asp Lys Ala Tyr Val Asp Tyr Cys  
 130 135 140  
 Gln Val Met Asp Val Asp Lys Lys Asn Thr Glu Ala Leu Leu Met Arg  
 145 150 . 155 160  
 Ala Tyr Ile Tyr Met Leu Arg Arg Asp Tyr Lys Gly Ala Arg Leu Asp  
 165 170 175  
 Tyr Gln Arg Leu Leu Glu Ile Asp Pro Lys Asn Tyr Asn Gly Arg Leu  
 180 185 190  
 Gly Leu Ala Thr Leu Glu Gln Lys Glu Asn Lys Phe Arg Glu Ala Leu  
 195 200 205  
 Asp Ile Leu Asn Gln Leu Leu Val Glu Phe Pro Glu Asp Ala Val Leu  
 210 215 220  
 Tyr Val Ala Arg Ala Asp Val Glu Trp Asp Met Lys His Asp Asp Leu  
 225 230 235 240  
 Ala Leu Val Asp Leu Asp Glu Ala Ile Arg Leu Ala Pro Asp Ser Ile  
 245 250 255  
 Asp Ala Tyr Leu Leu Arg Gly Asp Ile Tyr Leu Asp Gln Lys Lys Lys  
 260 265 270  
 Ser Leu Ala Lys Ala Asp Phe Glu Lys Ala Ile Ser Leu Gly Val Pro  
 275 280 285

Pro Ala Asp Val His Glu Gln Met Gln Gln Cys Lys  
 290                            295                            300

<210> 7516

<211> 386

<212> PRT

<213> B.fragilis

<400> 7516

Trp Asn Thr Met Ile Gly Leu Phe Asn Asp Cys Phe Pro Pro Ile Met			
1                            5                            10                            15			
Asp Gly Val Ser Leu Thr Thr Gln Asn Tyr Ala Tyr Trp Leu His Arg			
20                            25                            30			
Lys Ala Gly Asn Val Cys Val Val Thr Pro Lys Ser Pro Asp Ala Arg			
35                            40                            45			
Asp Ala Glu Glu Tyr Pro Val Tyr Arg Tyr Ser Ser Val Pro Ile Pro			
50                            55                            60			
Met Arg Lys Pro Tyr Arg Leu Gly Phe Pro Arg Ile Asp Trp Pro Phe			
65                            70                            75                            80			
His Glu Arg Ile Ser Arg Leu Ser Phe Glu Leu Val His Ala His Cys			
85                            90                            95			
Pro Phe Ser Ser Gly Ala Leu Ala Met Gln Ile Ala Lys Glu Gln His			
100                            105                            110			
Val Pro Ile Val Ala Thr Phe His Ser Lys Tyr Arg Ala Asp Phe Glu			
115                            120                            125			
Arg Ala Ile Pro Ser Arg Leu Leu Val Asn Tyr Leu Ile Lys Lys Val			
130                            135                            140			
Ile Arg Phe Tyr Glu Ala Ala Asp Glu Val Trp Ile Pro Gln Ala Ala			
145                            150                            155                            160			
Val Glu Glu Thr Leu Arg Glu Tyr Gly Tyr Lys Gly Arg Ile Glu Val			
165                            170                            175			
Val Asp Asn Gly Asn Asp Phe Ala Gly Thr Pro Phe Leu Gln Ser Val			
180                            185                            190			
Arg Gln Glu Ala Arg Arg Thr Leu Gly Ile Arg Ser Gly Glu Phe Met			
195                            200                            205			
Phe Leu Phe Val Gly Gln His Ile Trp Glu Lys Asn Leu Gly Phe Leu			
210                            215                            220			
Leu Asp Ser Leu Val Arg Leu Ser Asp Ile Pro Phe Arg Met Tyr Phe			
225                            230                            235                            240			
Val Gly Ser Gly Tyr Ala Ser His Glu Leu Lys Gln Lys Val Val Glu			
245                            250                            255			
Leu Gly Leu Ala Ser Lys Val Ser Phe Val Gly Ser Ile Val Glu Arg			
260                            265                            270			
Glu Ile Leu Lys Arg Tyr Tyr Val Ala Ala Asp Leu Phe Leu Phe Pro			
275                            280                            285			
Ser Leu Tyr Asp Asn Ala Pro Leu Val Ile Arg Glu Ala Ala Ala Leu			
290                            295                            300			
Gly Thr Pro Ser Val Leu Ile Arg Asp Ser Thr Ala Ser Glu Ile Ile			
305                            310                            315                            320			
Ser Asp Ser Val Asn Gly Phe Leu Ser Pro Asn Ser Thr Glu Ala Tyr			
325                            330                            335			
Ser Asn Arg Ile Arg Glu Ile Leu Cys Ser Thr Ala Ile Ile Lys Gln			
340                            345                            350			
Val Gly Glu Glu Ala Ser Arg Thr Ile Ala Arg Ser Trp Glu Asp Val			
355                            360                            365			
Ala Gly Glu Val Tyr Asp Arg Tyr Asn Arg Leu Ile Lys Arg Asn Gly			
370                            375                            380			
Asn Lys			
385			

<210> 7517  
<211> 426  
<212> PRT  
<213> B.fragilis

<400> 7517

Lys	Arg	Lys	Met	Lys	Val	Asp	Val	Leu	Leu	Gly	Leu	Gln	Trp	Gly	Asp
1				5				10				15			
Glu	Gly	Lys	Gly	Lys	Val	Val	Asp	Val	Leu	Thr	Pro	Lys	Tyr	Asp	Val
				20				25				30			
Val	Ala	Arg	Phe	Gln	Gly	Gly	Pro	Asn	Ala	Gly	His	Thr	Leu	Glu	Phe
				35				40				45			
Glu	Gly	Gln	Lys	Tyr	Val	Leu	Arg	Ser	Ile	Pro	Ser	Gly	Ile	Phe	Gln
				50				55				60			
Gly	Asp	Lys	Val	Asn	Ile	Ile	Gly	Asn	Gly	Val	Val	Leu	Asp	Pro	Ala
				65				70				75			80
Leu	Phe	Lys	Ala	Glu	Ala	Glu	Ala	Leu	Glu	Ala	Ser	Gly	His	Asn	Leu
				85				90				95			
Lys	Glu	Arg	Leu	His	Ile	Ser	Lys	Lys	Ala	His	Leu	Ile	Leu	Pro	Thr
				100				105				110			
His	Arg	Ile	Leu	Asp	Ala	Ala	Tyr	Glu	Ala	Ala	Lys	Gly	Asp	Ala	Lys
				115				120				125			
Val	Gly	Thr	Thr	Gly	Lys	Gly	Ile	Gly	Pro	Thr	Tyr	Thr	Asp	Lys	Val
				130				135				140			
Ser	Arg	Asn	Gly	Val	Arg	Val	Gly	Asp	Ile	Leu	His	Asn	Phe	Glu	Gln
				145				150				155			160
Lys	Tyr	Ala	Ala	Ala	Lys	Ala	Arg	His	Glu	Gln	Ile	Leu	Lys	Gly	Leu
				165				170				175			
Asn	Tyr	Glu	Tyr	Asp	Leu	Thr	Glu	Leu	Glu	Lys	Ala	Trp	Phe	Glu	Gly
				180				185				190			
Ile	Glu	Tyr	Leu	Lys	Gln	Phe	Gln	Leu	Val	Asp	Ser	Glu	His	Glu	Ile
				195				200				205			
Asn	Gly	Leu	Leu	Asp	Asn	Gly	Lys	Ser	Ile	Leu	Cys	Glu	Gly	Ala	Gln
				210				215				220			
Gly	Thr	Met	Leu	Asp	Ile	Asp	Phe	Gly	Ser	Tyr	Pro	Phe	Val	Thr	Ser
				225				230				235			240
Ser	Asn	Thr	Val	Cys	Ala	Gly	Ala	Cys	Thr	Gly	Leu	Gly	Val	Ala	Pro
				245				250				255			
Asn	Lys	Ile	Gly	Asp	Val	Tyr	Gly	Ile	Phe	Lys	Ala	Tyr	Cys	Thr	Arg
				260				265				270			
Val	Gly	Ser	Gly	Pro	Phe	Pro	Thr	Glu	Leu	Phe	Asp	Lys	Thr	Gly	Asp
				275				280				285			
Gln	Ile	Cys	Thr	Leu	Gly	His	Glu	Phe	Gly	Ser	Val	Thr	Gly	Arg	Lys
				290				295				300			
Arg	Arg	Cys	Gly	Trp	Val	Asp	Leu	Val	Ala	Leu	Lys	Tyr	Ser	Ile	Met
				305				310				315			320
Val	Asn	Gly	Val	Thr	Lys	Leu	Ile	Met	Met	Lys	Ser	Asp	Val	Leu	Asp
					325				330				335		
Thr	Phe	Glu	Thr	Ile	Lys	Ala	Cys	Val	Ala	Tyr	Lys	Met	Asn	Gly	Glu
					340				345				350		
Glu	Ile	Asp	Tyr	Phe	Pro	Tyr	Asp	Ile	Thr	Asp	Glu	Val	Glu	Pro	Ile
					355				360				365		
Tyr	Val	Glu	Leu	Pro	Gly	Trp	Gln	Thr	Asp	Met	Thr	Lys	Met	Gln	Ser
					370				375				380		
Glu	Asp	Glu	Phe	Pro	Glu	Glu	Phe	Asn	Ala	Tyr	Leu	Ser	Phe	Leu	Glu
					385				390				395		400
Glu	Gln	Leu	Gly	Val	Gln	Ile	Lys	Ile	Val	Ser	Val	Gly	Pro	Asp	Arg
					405				410				415		

Glu Gln Thr Ile Ile Arg Tyr Thr Glu Glu  
420 425

<210> 7518

<211> 457

<212> PRT

<213> B.fragilis

<400> 7518

Asn	Glu	Ala	Phe	Leu	Pro	Pro	Ser	Leu	Ser	Gly	Glu	Ala	Arg	Ser	Glu
1		5						10				15			
Ala	Phe	Leu	Phe	Ile	Ile	Leu	Met	Lys	Lys	His	Phe	Ile	Thr	Phe	Leu
	20						25					30			
Leu	Leu	Val	Gly	Met	Thr	Ala	Ser	Leu	Thr	Ala	Gln	Gln	Lys	Tyr	Gln
		35					40				45				
Pro	Thr	Glu	Ala	Asn	Leu	Lys	Ala	Arg	Ser	Glu	Phe	Gln	Asp	Asn	Lys
	50					55				60					
Phe	Gly	Ile	Phe	Leu	His	Trp	Gly	Leu	Tyr	Ala	Met	Leu	Ala	Thr	Gly
	65				70			75				80			
Glu	Trp	Thr	Met	Thr	Asn	Asn	Asn	Leu	Asn	Tyr	Lys	Glu	Tyr	Ala	Lys
		85					90				95				
Leu	Ala	Gly	Gly	Phe	Tyr	Pro	Ser	Lys	Phe	Asp	Ala	Asp	Lys	Trp	Val
		100					105				110				
Ala	Ala	Ile	Lys	Ala	Ser	Gly	Ala	Lys	Tyr	Ile	Cys	Phe	Thr	Thr	Arg
		115					120				125				
His	His	Glu	Gly	Phe	Ser	Met	Phe	Asp	Thr	Lys	Tyr	Ser	Asp	Tyr	Asn
		130				135				140					
Ile	Val	Lys	Ala	Thr	Pro	Phe	Lys	Arg	Asp	Val	Val	Lys	Glu	Leu	Ala
	145				150			155				160			
Asp	Ala	Cys	Ala	Lys	His	Gly	Ile	Lys	Leu	His	Phe	Tyr	Tyr	Ser	His
		165					170				175				
Ile	Asp	Trp	Tyr	Arg	Glu	Asp	Ala	Pro	Gln	Gly	Arg	Thr	Gly	Arg	Arg
		180				185				190					
Thr	Gly	Arg	Pro	Asn	Pro	Lys	Gly	Asp	Trp	Lys	Ser	Tyr	Tyr	Gln	Phe
		195				200				205					
Met	Asn	Asn	Gln	Leu	Thr	Glu	Leu	Leu	Thr	Asn	Tyr	Gly	Pro	Ile	Gly
		210				215				220					
Ala	Ile	Trp	Phe	Asp	Gly	Trp	Trp	Asp	Gln	Asp	Ile	Asn	Pro	Asp	Phe
	225				230			235				240			
Asp	Trp	Glu	Leu	Pro	Glu	Gln	Tyr	Ala	Leu	Ile	His	Arg	Leu	Gln	Pro
		245				250				255					
Ala	Cys	Leu	Val	Gly	Asn	Asn	His	His	Gln	Thr	Pro	Phe	Ala	Gly	Glu
		260				265				270					
Asp	Ile	Gln	Ile	Phe	Glu	Arg	Asp	Leu	Pro	Gly	Glu	Asn	Thr	Ala	Gly
		275				280				285					
Leu	Ser	Gly	Gln	Ser	Val	Ser	His	Leu	Pro	Leu	Glu	Thr	Cys	Glu	Thr
		290				295				300					
Met	Asn	Gly	Met	Trp	Gly	Tyr	Lys	Ile	Thr	Asp	Gln	Asn	Tyr	Lys	Ser
	305				310			315				320			
Thr	Lys	Thr	Leu	Ile	His	Tyr	Leu	Val	Lys	Ala	Ala	Gly	Lys	Asp	Ala
		325				330				335					
Asn	Leu	Leu	Met	Asn	Ile	Gly	Pro	Gln	Pro	Asp	Gly	Glu	Leu	Pro	Glu
		340				345				350					
Val	Ala	Val	Gln	Arg	Leu	Lys	Glu	Val	Gly	Glu	Trp	Met	Ser	Lys	Tyr
		355				360				365					
Gly	Glu	Thr	Ile	Tyr	Gly	Thr	Arg	Gly	Gly	Leu	Val	Ala	Pro	His	Asp
		370				375				380					
Trp	Gly	Val	Thr	Thr	Gln	Lys	Gly	Asn	Lys	Leu	Tyr	Val	His	Ile	Leu
	385				390				395			400			

Asn Leu Gln Asp Lys Ala Leu Phe Leu Pro Ile Val Asp Lys Lys Val  
           405                 410                 415  
 Lys Lys Ala Val Val Phe Ala Asp Lys Thr Pro Val Arg Phe Thr Lys  
           420                 425                 430  
 Asn Lys Glu Gly Ile Val Leu Glu Leu Ala Lys Val Pro Thr Asp Val  
           435                 440                 445  
 Asp Tyr Val Val Glu Leu Thr Ile Asp  
           450                 455

<210> 7519

<211> 68

<212> PRT

<213> B.fragilis

<400> 7519

Lys Glu Arg Ile Arg Asn Gly Tyr Lys Arg Val Lys Thr Lys Thr Ala  
 1              5                 10                 15  
 Phe His Ser Asn Gln Asp Val Thr Gly Cys Tyr Gly Ser Cys Ser Val  
           20                 25                 30  
 Gly Leu Tyr Cys Phe Phe Tyr Gly Leu Phe Ile Gln Lys Ile Ser Arg  
           35                 40                 45  
 Lys Tyr Phe Asn Tyr Arg Met Gly Lys Arg Leu Glu Lys Glu Asp Val  
           50                 55                 60  
 Arg Ile Ile Asn  
 65

<210> 7520

<211> 504

<212> PRT

<213> B.fragilis

<400> 7520

Gly Phe Arg Leu Asp Ala Thr Pro Leu Phe Tyr Leu Phe Ser Ser Pro  
 1              5                 10                 15  
 Lys Asp Ala Met Ala Ser Val Ser Ile Trp Val Val Met Ala Gly Leu  
           20                 25                 30  
 Ala Ala Met Ala Val Tyr Ala Ala Leu Leu Tyr Leu Ile Phe Tyr Arg  
           35                 40                 45  
 Val Leu Ile Tyr Gln Lys Gln Pro Val Lys Ile Pro Phe His Arg Leu  
           50                 55                 60  
 Ser Val Ser Gly Val Leu Leu Ala Thr Ala Leu Leu Phe Ile Pro  
           65                 70                 75                 80  
 Ile Arg Gly Gly Phe Thr Val Ser Thr Met Asn Leu Ser Lys Ala Tyr  
           85                 90                 95  
 Phe Ser Ser Asn Gln Arg Leu Asn His Ala Ala Ile Asn Pro Cys Phe  
           100                105                110  
 Ser Leu Met Glu Ser Leu Ser Arg Gln Asp Asn Phe Asp Lys Gln Tyr  
           115                120                125  
 Arg Phe Met Pro Ala Glu Glu Ala Asp Lys Leu Phe Ala Glu Leu Lys  
           130                135                140  
 Asp Gln Pro Val Ala Pro Thr Asp Ser Ile Pro Gln Leu Phe Thr Thr  
           145                150                155                 160  
 Glu His Pro Asn Val Ile Leu Ile Ile Leu Glu Ser Phe Ser Ser Lys  
           165                170                175  
 Leu Met Glu Thr Leu Gly Gly Glu Ser Asn Val Ala Ile Asn Met Asp  
           180                185                190  
 Gln Phe Gly Arg Glu Gly Val Leu Phe Thr His Phe Phe Ala Asn Ser  
           195                200                205  
 Phe Arg Thr Asp Arg Gly Leu Ala Ala Ile Ile Ser Gly Tyr Pro Ala

210	215	220
Gln Pro Thr Thr Ser Ile Met Lys Tyr Pro Lys Lys Thr Gln His Leu		
225	230	235
Pro Ser Ile Pro Gly Ser Leu Lys Lys Ala Gly Tyr Asp Leu Gln Tyr		240
245	250	255
Tyr Tyr Gly Gly Asp Ala Asp Phe Thr Asn Met Arg Ser Tyr Leu Ile		
260	265	270
Gln Ala Gly Ile Asp Asn Ile Val Ser Asp Lys Asp Phe Pro Leu Ser		
275	280	285
Glu Arg Leu Ser Lys Trp Gly Ala His Asp His Val Val Phe Asn Arg		
290	295	300
Leu Leu Asp Asp Leu Lys Gln His Thr Pro Gln Lys Pro Phe Met Lys		
305	310	315
Ile Leu Gln Thr Ser Ser His Glu Pro Phe Glu Val Pro Phe Arg		320
325	330	335
Arg Leu Glu Asn Pro Arg Leu Asn Ala Phe Ala Tyr Ala Asp Ser Cys		
340	345	350
Ala Gly Asp Phe Val Arg Gln Phe Lys Glu Thr Pro Leu Trp Lys Asn		
355	360	365
Thr Val Ile Val Leu Val Pro Asp His Leu Gly Ala Tyr Pro Gln Asp		
370	375	380
Ile Asp Asn Leu Thr Val Asp Arg Tyr Arg Ile Pro Leu Ile Phe Ile		
385	390	395
Gly Gly Ala Val Lys Glu Pro Arg Gln Ile Gly Thr Tyr Gly Ser Gln		400
405	410	415
Ile Asp Ile Ala Ala Thr Leu Leu Gly Gln Leu Gly Leu Pro His Glu		
420	425	430
Glu Phe Ile Phe Ser Lys Asn Met Leu Asn Pro Asn Ser Pro His Phe		
435	440	445
Gly Phe Phe Thr Phe Pro Asn Ala Phe Gly Met Met Thr Pro Glu Asn		
450	455	460
Glu Val Val Phe Asn Cys Glu Ser Asn Ser Ile Val Ser Asp Glu Gly		
465	470	475
Thr His Lys Gly Glu Asn Leu Pro Lys Ala Lys Ala Tyr Leu Gln Lys		480
485	490	495
Leu Tyr Asp Asp Leu Ala Lys Arg		
500		

&lt;210&gt; 7521

&lt;211&gt; 221

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7521

Leu Met Asp Val Lys Glu Gln Leu Lys Asp Ile Lys Thr Gln Leu Arg		
1	5	10
Leu Ser Met Asn Gly Val Val Ser Gln Ser Met Arg Glu Lys Gly Leu		15
20	25	30
Asp Tyr Lys Leu Asn Phe Gly Val Glu Leu Pro Arg Ile Lys Ser Ile		
35	40	45
Ala Ala Ala Tyr Glu Lys Ser His Asp Leu Ala Gln Ala Leu Trp Lys		
50	55	60
Glu Asn Ile Arg Glu Cys Lys Ile Leu Ala Gly Leu Leu Gln Pro Ile		
65	70	75
Asp Thr Phe Phe Pro Glu Ile Ala Asp Ile Trp Val Glu Asp Ile Arg		80
85	90	95
Asn Ile Glu Ile Ala Glu Leu Thr Cys Met Asn Leu Phe Gln Asn Leu		
100	105	110
Pro Tyr Ala Pro Ala Lys Thr Phe Gln Trp Ile Ala Asp Glu Ala Glu		

115	120	125
Tyr Thr Gln Val Cys Gly	Tyr Leu Thr Ile Ala Arg	Leu Leu Met Lys
130	135	140
Lys Gly Asp Met Ala Gln Arg Pro Ala Gly	Glu Leu Leu Asp Gln Ala	
145	150	155
Ile Cys Ala Val Gln Ser Gly Ser Tyr His	Val Arg Asn Ala Ala Met	
165	170	175
Leu Ala Ile Arg Lys Tyr Met Gln His Ser	Glu Glu His Ala Phe Gln	
180	185	190
Val Cys Arg Leu Val Glu Gly Met Glu Asn Ser	Glu Lys Glu Ala Glu	
195	200	205
Gln Met Leu Tyr Ala Met Val Lys Asp Glu	Ile Asn Asp	
210	215	220

&lt;210&gt; 7522

&lt;211&gt; 474

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7522

Phe Ile Lys Val Ile Ala Met Lys	Phe Lys Ser Thr Phe Met Thr Ala	
1	5	10
Cys Leu Gly Ile Gly Leu Cys Thr Ser Cys Thr Pro	Glu Thr Pro Thr	
20	25	30
Ala Pro Gln Asp Tyr Thr Gln Tyr Val Asn Thr	Phe Ile Gly Ala Ala	
35	40	45
Asp Asn Gly His Thr Phe Pro Gly Ala Cys Leu	Pro Phe Gly Leu Ile	
50	55	60
Gln Ala Ser Pro Glu Thr Asn Ala Ile Gly Trp	Gln Tyr Cys Ser Gly	
65	70	75
Tyr Asn Tyr Gln Asp Ser Leu Ile Trp Gly	Phe Ser Gln Thr His Leu	
85	90	95
Asn Gly Thr Gly Cys Met Asp Leu Gly Asp Leu	Leu Val Met Pro Val	
100	105	110
Thr Gly Gln Arg Val Arg Asp Asp	Tyr Lys Ser Gly Phe Ser Lys Lys	
115	120	125
Thr Glu Ser Ala Thr Pro Gly Tyr Tyr	Thr Val Glu Leu Asp Lys Tyr	
130	135	140
Lys Val Lys Ala Glu Leu Thr Ala Thr Asp	His Val Ala Leu His Arg	
145	150	155
Tyr Thr Tyr Gln Asn Ala Asp Ser Ala Ser	Leu Leu Leu Asp Leu Gln	
165	170	175
His Gly Leu Val Trp Asn Pro Gln Gln	Tyr Lys Ser His Val Lys Ala	
180	185	190
Cys Glu Ile Asn Trp Glu Asp Ala Gln Thr	Leu Thr Gly His Val Arg	
195	200	205
Ser Ser Val Trp Val Asn Gln Asp Leu Tyr	Phe Val Met Lys Phe Asn	
210	215	220
Lys Pro Val Thr Asp Ser Ile Tyr Leu Pro	Met Glu Glu Thr Glu Lys	
225	230	235
Gly Lys Arg Leu Ile Met Ser Phe Asp Met	Lys Pro Asp Glu Gln Leu	
245	250	255
Leu Met Lys Val Ala Ile Ser Thr Val	Gly Val Asp Gly Ala His Lys	
260	265	270
Asn Met Glu Lys Glu Leu Ala Asp Trp Asp	Phe Asp Gly Thr Arg Gln	
275	280	285
Lys Ala Lys Asp Ser Trp Asn Ser Tyr Leu Ser	Arg Ile Glu Val Thr	
290	295	300
Gly Thr Pro Asp Glu Leu Glu Asn Phe Tyr	Thr Ser Phe Tyr His Ala	

305	310	315	320
Leu Ile Gln Pro Asn Asn Ile Ala Asp Val Asp Gly Arg Tyr Arg Asn			
325	330	335	
Ala Lys Asp Ser Ile Val Lys Ser Ser Gly Val Tyr Tyr Ser Thr			
340	345	350	
Phe Ser Ile Trp Asp Thr Tyr Arg Ala Ala His Pro Phe Tyr Thr Leu			
355	360	365	
Ala Val Pro Glu Arg Val Asp Gly Phe Ile Asn Ser Met Ile Glu Gln			
370	375	380	
Asn Gln Ala Gln Gly Tyr Leu Pro Val Trp Thr Leu Trp Gly Lys Glu			
385	390	395	400
Thr Asn Thr Met Ile Gly Asn His Ser Val Ser Val Ile Ala Glu Ala			
405	410	415	
Tyr Lys Lys Gly Phe Arg Gly Phe Asp Ala Glu Lys Ala Phe Asp Ala			
420	425	430	
Ile Lys Gln Thr Leu Thr Val Ser His Pro Lys Ser Asp Trp Glu Thr			
435	440	445	
Tyr Met Lys Tyr Gly Tyr Tyr Pro Thr Asp Lys Val Asp Ala Glu Ser			
450	455	460	
Val Phe Thr Tyr Pro Arg Ile Gly Leu Arg			
465	470		

&lt;210&gt; 7523

&lt;211&gt; 713

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7523

Asn Met Ile Phe Glu Thr Tyr Phe Lys His Val Tyr Leu Tyr Val Ala			
1	5	10	15
Cys Leu Tyr Ala Thr Ser Gly Thr Gly Leu Tyr Ala Gln Thr Leu His			
20	25	30	
Gln His Ala Gly Thr Gln Arg Asp Thr Val Pro Val Thr Phe Pro Val			
35	40	45	
Gln His Leu Glu Glu Val Val Ile Thr Ala Gly Arg Pro Gly Ile Thr			
50	55	60	
Ala Gly Ala Val Ser Asn Arg Ile Ser Ser Glu Ile His Arg Val			
65	70	75	80
Ala Gly Ser Ser Leu Ala Thr Leu Leu Glu Arg Ile Ser Gly Val Ser			
85	90	95	
Ser Leu Ser Thr Gly Thr Thr Val Ser Lys Pro Val Ile His Gly Met			
100	105	110	
His Gly Asn Arg Ile Leu Ile Ile Asn Asn Gly Ala Arg Gln Thr Gly			
115	120	125	
Gln Gln Trp Ala Thr Asp His Ala Pro Glu Val Asp Ile Asn Glu Ser			
130	135	140	
Gly Asn Ile Leu Val Ile Lys Gly Ala Asp Gly Val Arg Tyr Gly Ser			
145	150	155	160
Asp Ala Leu Gly Gly Ile Ile Val Met Glu Gln Pro Pro Leu Ala Phe			
165	170	175	
Gly Gln Glu His Pro Lys Gly Arg Ile Ala Thr Phe Tyr Gly Ser Asn			
180	185	190	
Gly His Arg Tyr Ala Ala Thr Gly Ser Leu Glu Gly Thr Leu Pro Phe			
195	200	205	
Leu Arg Asn Ile Ala Trp Arg Met Gln Gly Thr Tyr Ser Asn Ser Gly			
210	215	220	
Asp Arg Ser Thr Ala His Tyr Leu Leu Asn Asn Thr Gly Thr Arg Gly			
225	230	235	240
Leu His Phe Ser Ala Ser Ala Gly Tyr Asp Ser Gly Arg Leu Arg Ile			

	245	250	255												
Glu	Gly	Ile	Tyr	Ser	His	Phe	Gly	Glu	Gln	Thr	Gly	Val	Met	Phe	Gly
		260				265							270		
Ala	Gln	Met	Gly	Ser	Glu	Asp	Leu	Leu	Ala	Glu	Arg	Ile	Arg	Leu	Gly
		275				280						285			
Arg	Pro	Val	Tyr	Thr	Asp	Pro	Phe	Thr	Arg	His	Ile	Ser	Tyr	Pro	Tyr
		290				295					300				
Gln	Lys	Val	Val	His	Arg	Thr	Ala	Ile	Gly	Lys	Val	Arg	Tyr	Asn	Ala
		305			310				315				320		
Gly	Ala	Ala	Gly	Val	Phe	Tyr	Trp	Gln	Thr	Ser	Trp	Gln	Lys	Asp	Asp
		325				330						335			
Arg	Arg	Glu	Asn	Arg	Ile	Arg	Arg	Met	Asn	His	Ser	Asp	Ile	Pro	Ala
													340	345	350
Val	Ala	Leu	Leu	Leu	Ser	Ser	Ile	Gln	Asn	Thr	Phe	Arg	Trp	Lys	Leu
													355	360	365
Asp	Tyr	Gly	Pro	Trp	Gln	Thr	Glu	Ile	Gly	Gly	Gln	Met	Ile	Phe	Thr
													370	375	380
Asp	Asn	His	Ser	Lys	Ala	Gly	Thr	Gly	Ile	Val	Pro	Val	Ile	Pro	Asn
													385	390	395
Tyr	Thr	Glu	Met	Gln	Ala	Gly	Ala	Tyr	Gly	Ile	Gln	Lys	Tyr	Arg	Tyr
													405	410	415
Glu	Arg	Thr	Ala	Val	Glu	Ala	Gly	Ile	Arg	Leu	Asp	Arg	Gln	Glu	Thr
													420	425	430
Arg	Ala	Gly	Gly	Tyr	Asp	Trp	Thr	Gly	Asn	Tyr	Tyr	Gly	Gly	Asn	Arg
													435	440	445
Lys	Phe	Cys	Asn	Phe	Thr	Tyr	Gly	Leu	Gly	Gly	His	Tyr	Arg	Leu	Ser
													450	455	460
Lys	Tyr	Trp	Glu	Leu	Thr	Ser	Asn	Phe	Ala	Leu	Thr	Trp	Arg	Ala	Pro
													465	470	475
His	Val	His	Glu	Leu	Tyr	Ser	Asn	Gly	Asn	Glu	Leu	Gly	Ser	Gly	Met
													485	490	495
Phe	Val	Arg	Gly	Asp	Ala	Ser	Met	Asn	Ala	Glu	Arg	Ser	His	Lys	Trp
													500	505	510
Ile	Thr	Ser	Val	Ser	Tyr	Arg	Asp	Lys	Val	Phe	His	Ile	Arg	Leu	Asp
													515	520	525
Ser	Tyr	Leu	Gln	Trp	Ile	Lys	Gly	Tyr	Ile	Tyr	Asp	Glu	Pro	Leu	Lys
													530	535	540
Glu	Asn	Ile	Thr	Val	Ile	Ser	Gly	Thr	Tyr	Pro	Val	Phe	Arg	Tyr	Arg
													545	550	560
Gln	Thr	Pro	Ala	Phe	Phe	Arg	Gly	Ala	Asp	Phe	Asp	Phe	Arg	Phe	Met
													565	570	575
Pro	Ala	Ala	Ser	Trp	Glu	Tyr	His	Leu	Ile	Ala	Ser	Phe	Ile	Arg	Ala
													580	585	590
Asn	Glu	Gln	Gly	Thr	Gly	Asn	Tyr	Leu	Pro	Tyr	Ile	Pro	Ser	Phe	His
													595	600	605
Leu	Ser	His	Glu	Leu	Ala	Trp	Thr	His	Gln	Thr	Lys	Ser	His	Ile	Leu
													610	615	620
Phe	Arg	Leu	Thr	Ala	Arg	His	Lys	Phe	Val	Ala	Lys	Gln	Asn	Arg	Phe
													625	630	640
Asn	Pro	Ala	Thr	Asp	Leu	Ile	Pro	Tyr	Thr	Pro	Pro	Ala	Tyr	His	Leu
													645	650	655
Phe	Gly	Ala	Glu	Ala	Ser	Met	Glu	Cys	Pro	Val	Lys	Tyr	Gly	Asn	Lys
													660	665	670
Leu	Thr	Leu	Thr	Val	Thr	Ala	Asp	Asn	Leu	Leu	Asn	Arg	Glu	Tyr	Lys
													675	680	685
Glu	Tyr	Thr	Asn	Arg	Ser	Arg	Tyr	Tyr	Ala	His	Asp	Met	Gly	Arg	Asp
													690	695	700
Ile	Arg	Cys	Thr	Leu	Asn	Trp	Asn	Phe							
													705	710	

<210> 7524  
<211> 471  
<212> PRT  
<213> B.fragilis

<400> 7524

Ser	Ile	Ile	Ser	Tyr	Asn	Phe	Ala	Thr	Gln	Phe	Asn	Lys	Thr	Val	Arg
1				5					10					15	
Thr	Met	Ala	Ala	Lys	Pro	Gly	Ile	Pro	Lys	Gly	Thr	Arg	Asp	Phe	Ser
				20				25					30		
Pro	Val	Glu	Met	Ala	Lys	Arg	Asn	Tyr	Ile	Phe	Asn	Thr	Ile	Arg	Asp
	35				40						45				
Val	Tyr	His	Leu	Tyr	Gly	Phe	Gln	Gln	Ile	Glu	Thr	Pro	Ser	Met	Glu
	50				55					60					
Met	Leu	Ser	Thr	Leu	Met	Gly	Lys	Tyr	Gly	Glu	Gly	Asp	Lys	Leu	
65					70				75				80		
Leu	Phe	Lys	Ile	Gln	Asn	Ser	Gly	Asp	Tyr	Phe	Ser	Gly	Ile	Thr	Asp
	85					90						95			
Glu	Glu	Leu	Leu	Ser	Arg	Asn	Ala	Ala	Lys	Leu	Ala	Ser	Lys	Phe	Cys
	100					105					110				
Glu	Lys	Gly	Leu	Arg	Tyr	Asp	Leu	Thr	Val	Pro	Phe	Ala	Arg	Tyr	Val
	115					120					125				
Val	Met	His	Arg	Asp	Glu	Ile	Thr	Phe	Pro	Phe	Lys	Arg	Tyr	Gln	Ile
	130					135					140				
Gln	Pro	Val	Trp	Arg	Ala	Asp	Arg	Pro	Gln	Lys	Gly	Arg	Tyr	Arg	Glu
145					150				155				160		
Phe	Tyr	Gln	Cys	Asp	Ala	Asp	Val	Val	Gly	Ser	Asp	Ser	Leu	Leu	Asn
	165					170					175				
Glu	Val	Glu	Leu	Met	Gln	Ile	Val	Asp	Thr	Val	Phe	Thr	Arg	Phe	Gly
	180					185					190				
Ile	Arg	Val	Cys	Ile	Lys	Ile	Asn	Asn	Arg	Lys	Ile	Leu	Thr	Gly	Ile
	195					200					205				
Ala	Glu	Ile	Ile	Gly	Glu	Ala	Asp	Lys	Ile	Val	Asp	Ile	Thr	Val	Ala
	210					215					220				
Ile	Asp	Lys	Leu	Asp	Lys	Ile	Gly	Leu	Asp	Asn	Val	Asn	Lys	Glu	Leu
225					230				235				240		
Ala	Glu	Lys	Gly	Ile	Ser	Glu	Glu	Ala	Ile	Ala	Lys	Leu	Gln	Pro	Ile
	245					250					255				
Ile	Leu	Leu	Ser	Gly	Thr	Asn	Ala	Glu	Lys	Leu	Ala	Thr	Leu	Lys	Thr
	260					265					270				
Val	Leu	Ser	Asp	Ser	Glu	Thr	Gly	Leu	Lys	Gly	Val	Glu	Glu	Ser	Glu
	275					280					285				
Phe	Ile	Leu	Asn	Thr	Leu	Gln	Thr	Met	Gly	Leu	Lys	Asn	Glu	Ile	Glu
	290					295				300					
Leu	Asp	Leu	Thr	Leu	Ala	Arg	Gly	Leu	Asn	Tyr	Tyr	Thr	Gly	Ala	Ile
305						310				315			320		
Phe	Glu	Val	Lys	Ala	Leu	Asp	Val	Gln	Ile	Gly	Ser	Ile	Thr	Gly	Gly
	325					330					335				
Gly	Arg	Tyr	Asp	Asn	Leu	Thr	Gly	Val	Phe	Gly	Met	Ala	Gly	Val	Ser
	340					345					350				
Gly	Val	Gly	Ile	Ser	Phe	Gly	Ala	Asp	Arg	Ile	Phe	Asp	Val	Leu	Asn
	355					360					365				
Gln	Leu	Glu	Leu	Tyr	Pro	Lys	Glu	Ala	Val	Asn	Gly	Thr	Gln	Leu	Leu
	370					375					380				
Phe	Ile	Asn	Phe	Gly	Glu	Lys	Glu	Ala	Ala	Phe	Ser	Met	Gly	Ile	Leu
385					390					395			400		
Ser	Lys	Ala	Arg	Ala	Val	Gly	Ile	Arg	Ala	Glu	Ile	Phe	Pro	Asp	Ala
	405					410					415				

<210> 7525

<211> 359

<212> PRT

<213> B. fragilis

<400> 7525

Thr Gly Thr Ser Asp Tyr Asp Phe Tyr Ser Leu Tyr Asn Ile Asn Lys  
 1 5 10 15  
 Pro Ile Glu Arg Lys Met Lys Thr Ile Thr Ser Lys Thr Ile Leu Met  
 20 25 30  
 Leu Leu Thr Gly Ala Phe Leu Val Leu Leu Phe Asn Ser Cys Thr Lys  
 35 40 45  
 Asp Pro Val Ile Pro Glu Asp Glu Thr Lys Asn Lys Leu His Glu Asp  
 50 55 60  
 Pro Ala Lys Val Thr Val Arg Leu Val Glu Cys His Leu His Ala Asp  
 65 70 75 80  
 Trp Asn Glu Ile Gln Thr Asn Gly Gly Pro His Gln Asn Pro Glu Ser  
 85 90 95  
 Pro Ala Arg His Ile Lys Arg Ile Gln Asp Ile Thr Tyr Glu Leu Lys  
 100 105 110  
 Ala Gly Gln Gly Trp Thr Leu Ala Glu Gly Ser Gln Lys Lys Phe Tyr  
 115 120 125  
 Val Gln Lys Asn Gly Glu Tyr Lys Asn Gln Gly Arg Phe Thr Pro Ala  
 130 135 140  
 Pro Val Tyr Leu Met Phe Ile Tyr Tyr Tyr Asn Ala Lys Gly Glu Leu  
 145 150 155 160  
 Met Asn Asn Gln Phe Val Glu Asn Gly Gln Glu Asn Ile His Gln His  
 165 170 175  
 Phe Phe Thr Pro Glu Asn Ile Lys Pro Thr Phe Asp Gly Gln Ile Glu  
 180 185 190  
 Ala Asp Asp Asn Asp Pro Gln Lys Leu Ile Asp Tyr Leu Tyr Val Asp  
 195 200 205  
 Thr Thr Pro Trp Asp Lys Thr Tyr His Ser Gly Glu Ala Glu Ile Thr  
 210 215 220  
 Gly Arg Asp Asn Pro Val Gly Leu Lys Gly Ile Ile Arg Phe Leu Lys  
 225 230 235 240  
 Asp Arg Lys Glu Phe Asp Leu Lys Val Arg Leu Tyr His Gly Tyr Glu  
 245 250 255  
 Ser Lys Lys Asn Pro Gln Thr Gly Thr Phe Asp Pro Phe Tyr Lys Pro  
 260 265 270  
 Ser Gly Val Leu Ile Gln Arg Gly Thr Trp Asp Ile Asn Leu Asn Leu  
 275 280 285  
 Pro Val Val Val Phe Trp Ser Arg Glu Glu Phe Ile Asp Ile Asp Glu  
 290 295 300  
 Glu Ala Asn Leu Glu Lys Val Gly Glu Asp Ser Leu Asp Glu Gly Ser  
 305 310 315 320  
 Asn Arg Thr Val His Ser Ile Met Glu Thr Phe Asn Leu Thr Trp Lys  
 325 330 335  
 Glu Ala Leu Glu Glu Phe Ile Thr Tyr Thr Tyr Lys Ala Gly Asp Ala  
 340 345 350

Glu Gly Gly Ala Ile Trp Leu  
355

<210> 7526

<211> 158

<212> PRT

<213> B.fragilis

<400> 7526

Pro	Val	Asn	Ser	Met	Ser	Asp	Leu	Glu	Asn	Lys	Thr	Gln	Glu	Glu	Thr
1				5				10				15			
Pro	Lys	Lys	Arg	Pro	Tyr	Asn	Leu	Arg	Glu	Lys	Lys	Glu	Lys	Lys	Ala
	20					25				30					
Ala	Tyr	Arg	Ser	Leu	Ile	Arg	Pro	Glu	Leu	Ala	Asp	Glu	Leu	Tyr	Asp
	35					40				45					
Arg	Ile	Leu	Asn	Ile	Ile	Val	Val	Gln	Lys	Lys	Tyr	Arg	Asp	Pro	Asp
	50					55			60						
Tyr	Ser	Ala	Lys	Asp	Leu	Ala	Lys	Glu	Leu	Lys	Thr	Asn	Thr	Arg	Tyr
	65					70			75			80			
Leu	Ser	Ala	Val	Val	Asn	Ser	Arg	Phe	Gly	Met	Asn	Tyr	Ser	Cys	Leu
					85				90			95			
Leu	Asn	Glu	Tyr	Arg	Val	Lys	Asp	Ala	Leu	His	Leu	Leu	Thr	Asp	Lys
		100				105				110					
Arg	Tyr	Ala	Asp	Lys	Asn	Val	Glu	Glu	Ile	Ser	Ala	Met	Val	Gly	Phe
	115					120				125					
Ala	Asn	Arg	Gln	Ser	Phe	Tyr	Ala	Ala	Phe	Tyr	Lys	Asn	Val	Gly	Glu
	130					135				140					
Thr	Pro	Asn	Gly	Tyr	Arg	Lys	Lys	His	Ala	Glu	Lys	Lys	Lys		
	145					150				155					

<210> 7527

<211> 303

<212> PRT

<213> B.fragilis

<400> 7527

Ser	Val	Asn	Pro	Ala	Tyr	Glu	Glu	Arg	Ala	Asn	Asn	Val	Arg	Pro	Val
1					5			10				15			
Arg	Ser	Asn	Arg	Asp	Asn	Arg	Thr	Asn	Gln	Gln	Trp	Leu	Glu	Lys	Ala
						20		25			30				
Leu	Lys	Ala	Ser	Gln	Ala	Asp	Val	Ile	Val	Ala	Ala	Leu	Gly	Glu	
	35					40				45					
Ser	Ser	Lys	Met	Ser	Gly	Glu	Ser	Ser	Ser	Arg	Thr	Asn	Phe	Asn	Leu
	50					55			60						
Arg	Asn	Val	Gln	His	Thr	Leu	Leu	Glu	Ala	Leu	Leu	Lys	Thr	Gly	Lys
	65					70			75			80			
Pro	Val	Val	Leu	Leu	Phe	Thr	Gly	Arg	Pro	Leu	Val	Leu	Asn	Trp	
					85			90			95				
Glu	Gln	Glu	His	Val	Pro	Ala	Ile	Leu	Asn	Val	Trp	Phe	Gly	Gly	Ser
						100		105			110				
Glu	Ala	Gly	Pro	Ala	Ile	Gly	Asp	Val	Leu	Phe	Gly	Ala	Val	Asn	Pro
	115					120				125					
Gly	Gly	Lys	Leu	Thr	Met	Thr	Phe	Pro	Lys	Ser	Val	Gly	Gln	Ile	Pro
	130					135			140						
Leu	Tyr	Tyr	Ala	His	Lys	Asn	Thr	Gly	Arg	Pro	Leu	Lys	Glu	Gly	Lys
	145					150			155			160			
Trp	Phe	Glu	Lys	Phe	Arg	Ser	Asn	Tyr	Leu	Asp	Val	Asp	Asn	Asp	Ala
					165			170			175				
Leu	Tyr	Pro	Phe	Gly	Tyr	Gly	Leu	Ser	Tyr	Thr	Thr	Phe	Arg	Phe	Ser

180	185	190
Asp Ile Thr Leu Asn Arg Ser Ser	Ile Gly Met Asp Asn Glu Leu Val	
195	200	205
Ala Ser Val Thr Val Thr Asn Thr Gly Asp Arg Ala Gly Ser Glu Val		
210	215	220
Val Gln Leu Tyr Ile Arg Asp Leu Val Gly Ser Val Thr Arg Pro Val		
225	230	235
Lys Glu Leu Lys Gly Phe Glu Lys Ile Tyr Leu Gln Pro Asn Glu Ser		
245	250	255
Arg Thr Val Arg Phe Thr Ile Ala Pro Glu Met Leu Lys Phe Tyr Asn		
260	265	270
Ala Asp Leu Lys Phe Val Ala Glu Pro Gly Asp Phe Asp Val Met Ile		
275	280	285
Gly Pro Asp Ser Arg Asn Val Lys Thr Ala Arg Phe Thr Leu Arg		
290	295	300

&lt;210&gt; 7528

&lt;211&gt; 66

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7528

Ser Phe Val Tyr Ser Ile Leu Arg Glu Asn His Leu Cys Gly Thr Leu		
1	5	10
Cys Asp Ser Val Val Asn Leu Ile Leu Phe Tyr Ser Leu Val Tyr Pro		
20	25	30
Val Gln Arg Asn Val Asn Arg Ala Val Phe Thr Phe Arg Leu Ser Gly		
35	40	45
Pro Ile Ile Thr Ser Lys Ser Pro Gly Ser Ala Thr Asn Phe Lys Ser		
50	55	60
Ala Leu		
65		

&lt;210&gt; 7529

&lt;211&gt; 102

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7529

Leu Glu Pro Phe Gly Leu Leu Phe Gly Lys Gly Leu Asp Thr Arg		
1	5	10
Ile Lys Asn Lys Leu Asp Ile Arg Ile Lys Met Lys Lys Val Lys Lys		
20	25	30
Ser Thr Trp Val Thr Val Ala Leu Leu Ile Tyr Val Ser Ala Thr Ala		
35	40	45
Ala Tyr Leu Leu Pro Arg Asn His Glu Val Ser Asp Thr Glu Lys Tyr		
50	55	60
Leu Thr Leu Ala Ala Ser Tyr Val Ile Val Leu Val Leu Trp Leu Val		
65	70	75
Lys Glu Gln Met Gln Gln Arg Arg Arg Glu Glu Glu His		
85	90	95
Met Asn Asn Leu Lys Lys		
100		

&lt;210&gt; 7530

&lt;211&gt; 707

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7530

Lys Val Tyr Leu Ile Phe Ile Leu Leu Thr Leu Ile Phe Arg Cys Met  
 1 5 10 15  
 Lys Gln Val Asn Leu Arg Val Cys Arg Met Ile Leu Pro Leu Leu Phe  
 20 25 30  
 Gly Leu Phe Leu Ser Leu Ser Ala Tyr Ala Gln Gln Val Ser Val Lys  
 35 40 45  
 Gly His Val Lys Asp Ser Thr Gly Glu Pro Val Ile Gly Ala Asn Val  
 50 55 60  
 Val Val Lys Asp Asn Ser Ser Ile Gly Thr Ile Thr Asp Leu Asn Gly  
 65 70 75 80  
 Asn Phe Val Leu Ser Val Pro Gln Asn Ser Thr Leu Val Ile Ser Phe  
 85 90 95  
 Ile Gly Tyr Lys Pro Val Glu Met Lys Ala Ala Pro Ser Val Thr Val  
 100 105 110  
 Thr Leu His Glu Asp Ala Val Met Leu Gln Glu Ala Val Val Ile Gly  
 115 120 125  
 Tyr Gly Thr Val Lys Lys Asn Asp Val Thr Gly Ser Val Met Ala Ile  
 130 135 140  
 Asp Ala Asp Arg Met Val Lys Gly Met Ala Thr Ser Ala Ser Asp Leu  
 145 150 155 160  
 Leu Val Gly Lys Ala Ala Gly Val Ser Val Ile Thr Asp Gly Gly Ala  
 165 170 175  
 Pro Gly Ala Gly Ala Thr Ile Arg Val Arg Gly Gly Ser Ser Met Ser  
 180 185 190  
 Ala Ser Asn Asp Pro Leu Ile Val Ile Asp Gly Val Pro Val Asp Asn  
 195 200 205  
 Thr Glu Ile Lys Gly Met Gly Asn Pro Leu Ser Thr Val His Pro Asn  
 210 215 220  
 Asp Ile Glu Thr Phe Thr Ile Leu Lys Asp Ala Ser Ala Thr Ala Ile  
 225 230 235 240  
 Tyr Gly Ser Arg Ala Ser Asn Gly Val Ile Ile Ile Thr Thr Lys Lys  
 245 250 255  
 Gly Gln Ser Gly Arg Val Lys Val Asp Tyr Ser Gly Thr Phe Ser Ile  
 260 265 270  
 Ser Thr Lys Ser Asn Thr Val Asp Val Met Lys Ala Glu Asp Phe Arg  
 275 280 285  
 Asn Phe Val Ile Glu Lys Phe Gly Glu Asn Ser Leu Gln Ala Asn Ala  
 290 295 300  
 Leu Gly Lys Thr Ser Thr Asp Trp Gln Asp Glu Ile Phe Arg Thr Ala  
 305 310 315 320  
 Phe Ser Thr Asp His Asn Val Ser Val Ser Gly Ala Val Pro His Met  
 325 330 335  
 Pro Tyr Arg Val Ser Val Ala Tyr Thr Asn Glu Asn Gly Ile Leu Lys  
 340 345 350  
 Thr Ser Asn Met Gln Arg Leu Thr Gly Ala Ile Asn Leu Asn Pro Asn  
 355 360 365  
 Phe Phe Asp Lys Lys Leu Asn Ile Gln Leu Asn Val Lys Gly Val Tyr  
 370 375 380  
 Asn Lys Asn Arg Phe Ala Asp Arg Ala Ala Ile Gly Leu Ala Thr Gln  
 385 390 395 400  
 Tyr Asp Pro Thr Gln Pro Val Tyr Met Glu Gly Asn Pro Tyr Gly Asn  
 405 410 415  
 Gly Tyr Phe Met Tyr Met Lys Gln Glu Gly Asp Lys Ala Ser Pro Ile  
 420 425 430  
 Asp Ile Gly Leu Ala Asn Pro Val Ala Met Leu Glu Glu Lys Asp Asp  
 435 440 445  
 Thr Ser Thr Val Tyr Arg Ser Ile Gly Asn Ala Gln Ile Asp Tyr Lys  
 450 455 460

Phe His Phe Leu Pro Glu Leu Arg Ala Asn Leu Asn Leu Gly Tyr Asp  
 465 470 475 480  
 Val Ser Lys Ser Lys Gly Asp Val Ile Ile Ala Asp Asn Ser Pro Leu  
 485 490 495  
 Thr Tyr Cys Thr Gly Asn Phe Lys Asn Gly Phe Gly Glu Asn Ser His  
 500 505 510  
 Tyr Thr Gln Leu Lys Arg Asn Thr Leu Leu Asp Phe Tyr Leu Asn Tyr  
 515 520 525  
 Ala Asn Thr Phe Gly Val Asn Tyr Ile Asp Val Met Ala Gly Tyr Ser  
 530 535 540  
 Trp Gln His Phe Tyr Asn Ser Thr Thr Asn Ser Tyr Pro Tyr Ser Ala  
 545 550 555 560  
 Ala Tyr Ala Glu Lys Thr Gly Glu Phe Tyr Lys Lys Gly Asp Asp  
 565 570 575  
 Tyr Ala Ser Glu Ser Tyr Leu Val Ser Phe Phe Gly Arg Leu Asn Tyr  
 580 585 590  
 Thr Leu Leu Asn Arg Tyr Leu Val Thr Phe Thr Leu Arg Asn Asp Gly  
 595 600 605  
 Ser Ser Arg Phe Ser Pro Asp Asn Arg Trp Gly Leu Phe Pro Ser Val  
 610 615 620  
 Ala Leu Ala Trp Lys Leu Asn Glu Glu Ser Phe Leu Lys Asn Val Asn  
 625 630 635 640  
 Ala Ile Ser Asp Leu Lys Leu Arg Leu Gly Tyr Gly Val Thr Gly Gln  
 645 650 655  
 Gln Asn Leu Gly Asn Gly Asp Tyr Pro Tyr Met Ala Arg Tyr Met Tyr  
 660 665 670  
 Ser Lys Ala Gly Ala Asn Tyr Tyr Phe Gly Asp Thr Glu Tyr Ser Leu  
 675 680 685  
 Ile Ala Pro Gln Pro Tyr Asp Gln Asn Leu Glu Gly Glu Lys Thr Thr  
 690 695 700  
 Pro Gly Thr  
 705

<210> 7531  
 <211> 1335  
 <212> PRT  
 <213> B.fragilis

<400> 7531  
 Arg Ile Pro Ala Cys Met Lys Lys Ile Leu Phe Leu Leu Leu Leu  
 1 5 10 15  
 Pro Leu Met Val Ser Ala Gln Thr Tyr Lys Tyr Ile Gly Val Glu Asp  
 20 25 30  
 Gly Leu Ser Asn Arg Arg Val Tyr Tyr Ile Gln Lys Asp Lys Lys Gly  
 35 40 45  
 Tyr Met Trp Phe Leu Thr His Glu Gly Val Asp Arg Tyr Asp Gly Lys  
 50 55 60  
 Glu Phe Lys Arg Tyr Lys Leu Met Asp Asp Gly Glu Glu Leu Asn Ser  
 65 70 75 80  
 Leu Leu Asn Leu Asn Trp Leu Tyr Leu Asp His Glu Ser Thr Leu Trp  
 85 90 95  
 Glu Ile Gly Lys Lys Gly Lys Val Phe Arg Tyr Asp Pro Leu Arg Asp  
 100 105 110  
 Gln Phe Thr Leu Val Tyr Lys Leu Pro Glu Glu Lys Ile Lys Asp Arg  
 115 120 125  
 Pro Ala Pro Ile Ser Tyr Ser Phe Ile Asp Arg Asn Asn Asn Ile Trp  
 130 135 140  
 Leu Cys Asn Glu Glu Thr Leu Tyr Leu Tyr Asn Thr His Thr Leu Gln  
 145 150 155 160

Thr Leu Gln Ile Lys Asn Glu Ile Gly Glu Asp Ile Thr Asp Ile Glu  
                  165                 170                 175  
 Gln Ile Asp Asp Thr His Phe Phe Ile Gly Thr Glu Gln Gly Ile His  
                  180                 185                 190  
 His Ala Glu Leu Lys Asn Gln Gly Leu His Leu Leu Pro Cys Asp Lys  
                  195                 200                 205  
 Leu Asp Asn Leu Pro Ile Gln Ile Asn Glu Leu Tyr Phe His Arg Pro  
                  210                 215                 220  
 Ser Arg Lys Leu Phe Ile Gly Thr Phe Glu Arg Gly Ile Tyr Val Tyr  
                  225                 230                 235                 240  
 Asp Met Asn Thr Lys Gln Ser Thr Gln Pro His Met Ser Leu Thr Asp  
                  245                 250                 255  
 Val Ser Ile Thr Arg Ile Lys Pro Leu Asn Asn Lys Glu Leu Leu Val  
                  260                 265                 270  
 Ala Thr Asp Gly Ala Gly Val Tyr Lys Ile Asn Ile Asn Ser Tyr Leu  
                  275                 280                 285  
 Thr Thr Pro Tyr Ile Val Ala Asp Tyr Asn Gln Tyr Asn Glu Met Asn  
                  290                 295                 300  
 Gly Asn Asn Ile Ser Asp Phe Tyr Val Asp Asp Glu Gln Arg Ile Trp  
                  305                 310                 315                 320  
 Leu Ala Asn Tyr Pro Ile Gly Ile Thr Val Arg Asn Asn Arg His Ser  
                  325                 330                 335  
 Ser Tyr Asn Trp Ile Lys His Ser Ile Gly Asn Lys Gln Ser Leu Ile  
                  340                 345                 350  
 Asn Asp Gln Val Asn Ser Ile Ile Glu Asp Ser Glu Arg Asp Leu Trp  
                  355                 360                 365  
 Tyr Ala Thr Asn Asn Gly Ile Ser Tyr Tyr Asn Ser Glu Thr Gly Val  
                  370                 375                 380  
 Trp His Ser Phe Met Ser Ser Phe Glu Lys Asn Gly Gly Asn Lys Asn  
                  385                 390                 395                 400  
 His Ile Phe Val Thr Leu Cys Glu Val Glu Pro Gly Ile Ile Trp Ala  
                  405                 410                 415  
 Ala Gly Tyr Ser Ser Gly Ile Tyr Gln Ile Asn Lys Arg Thr Leu Ser  
                  420                 425                 430  
 Val Glu Tyr Ile Thr Pro Ser Ser Leu Tyr Gly Val Asn Ile Arg Pro  
                  435                 440                 445  
 Asp Lys Tyr Ile Arg Ser Ile Ile Lys Thr Ala Asp Gly Asp Ile Trp  
                  450                 455                 460  
 Ser Gly Gly Tyr Tyr Asn Leu Lys Arg Ile Asp Phe His Lys Lys Thr  
                  465                 470                 475                 480  
 Leu Arg Leu Tyr Pro Lys Leu Asn Ser Ile Thr Ser Ile Met Glu Lys  
                  485                 490                 495  
 Asp Ser Lys Gln Met Trp Ile Gly Thr Ala Thr Gly Leu Tyr Leu Leu  
                  500                 505                 510  
 Glu Lys Glu Ser Gly Lys Tyr Gln Arg Ile Glu Leu Pro Val Glu Ser  
                  515                 520                 525  
 Met Tyr Ile Tyr Ser Leu Tyr Gln Ala Arg Asn Gly Leu Leu Tyr Ile  
                  530                 535                 540  
 Gly Thr Ser Gly Ser Gly Leu Leu Ile Tyr Asp Pro Glu Lys Arg Thr  
                  545                 550                 555                 560  
 Phe Thr His Tyr His Arg Asp Asn Cys Ala Leu Ile Ser Asn Asn Ile  
                  565                 570                 575  
 Tyr Thr Ile Leu Ser Asp Thr Asp Asp Ile Ile Met Ser Thr Glu  
                  580                 585                 590  
 Asn Gly Leu Ser Ser Tyr Tyr Pro Ala Glu Lys Leu Phe His Asn Trp  
                  595                 600                 605  
 Thr Lys Asp Gln Gly Leu Met Ala Ser His Phe Asn Ala Gly Ser Gly  
                  610                 615                 620  
 Thr Leu Arg Lys Asn Gly Asn Phe Ile Phe Gly Ser Ser Asp Gly Ala

625	630	635	640
Ile Glu Phe Asn Lys	Glu Met Lys Ile Pro Arg Lys Tyr Ser Ser Lys		
645	650	655	
Met Val Leu Ser Asp Leu Thr Ile Phe Tyr Gln Thr Val Tyr Pro Gly			
660	665	670	
Asp Glu Asn Ser Pro Leu Ser Thr Asp Ile Asp Asp Thr Lys Glu Leu			
675	680	685	
Glu Leu Ser Tyr Ser Gln Asn Ile Phe Ser Leu Lys Val Ser Ser Ile			
690	695	700	
Asn Tyr Asp Tyr Pro Ser Asn Ile Leu Tyr Ser Trp Lys Leu Glu Gly			
705	710	715	720
Phe Tyr Asp Gln Trp Ser Arg Pro Gly Asn Glu Asn Ile Ile Arg Phe			
725	730	735	
Thr Asn Leu Ser Pro Gly Glu Tyr Thr Leu His Ile Arg Ala Val Ser			
740	745	750	
Asn Glu Asp Lys Arg Ile Val Leu Glu Glu Arg Thr Met Lys Ile Ser			
755	760	765	
Ile Ala Gln Pro Ile Trp Leu Ser Phe Trp Ala Met Leu Val Tyr Ala			
770	775	780	
Ile Val Leu Ala Val Ile Ala Ile Ile Thr Leu Arg Ile Ile Ile Leu			
785	790	795	800
Arg Lys Gln Arg Lys Val Ser Asp Glu Lys Ile His Phe Phe Ile Asn			
805	810	815	
Thr Ala His Asp Ile Arg Thr Pro Leu Thr Leu Ile Lys Ala Pro Leu			
820	825	830	
Glu Glu Ile Arg Glu Arg Glu Ala Leu Thr Lys Asp Gly Ile Ser Asn			
835	840	845	
Met Asn Thr Ala Leu Arg Asn Val Asn Ala Leu Leu Arg Leu Thr Thr			
850	855	860	
Asn Leu Ile Asn Phe Glu Arg Ala Asp Val Tyr Ser Ser Glu Leu Tyr			
865	870	875	880
Ile Ser Glu Tyr Glu Leu Asn Thr Tyr Leu Thr Glu Thr Phe Asn Ala			
885	890	895	
Phe Arg Pro Tyr Ala Ser Val Lys His Ile Asn Phe Thr Tyr Glu Ser			
900	905	910	
Asn Phe Arg Tyr Leu Asn Val Trp Ile Asp Lys Glu Lys Met Asp Ser			
915	920	925	
Ile Leu Lys Asn Ile Ile Ser Asn Ala Leu Lys Tyr Thr Pro Glu Asn			
930	935	940	
Gly Ser Val His Ile Tyr Ala Ser Glu Thr Asn Asp Ser Trp Asn Val			
945	950	955	960
Glu Val Asn Asp Thr Gly Ile Gly Ile Pro Ala Asn Glu Gln Lys Lys			
965	970	975	
Leu Phe Lys Ile His Phe Arg Gly Ser Asn Ala Ile Asn Ser Lys Val			
980	985	990	
Thr Gly Ser Gly Ile Gly Leu Met Leu Val Trp Lys Leu Val His Leu			
995	1000	1005	
His Lys Gly Lys Ile Asn Leu Ser Ser Val Glu His Gln Gly Ser Ser			
1010	1015	1020	
Ile Lys Val Ser Phe Pro Lys Asp Ser Lys His Phe His Lys Ala His			
1025	1030	1035	1040
Leu Ala Thr Arg Thr Arg Glu Leu Ser Thr Glu Gln Val Pro His Val			
1045	1050	1055	
Ser Pro Ala Glu Ile Tyr Glu Lys Ala Lys Lys Gln His Asp Gln Asn			
1060	1065	1070	
Leu Gln Arg Leu Leu Ile Val Glu Asp Asn Asp Glu Leu Arg Asn Tyr			
1075	1080	1085	
Leu Thr His Thr Leu Ser Asp Asn Tyr Thr Ile Gln Thr Cys Ser Asn			
1090	1095	1100	

Gly Lys Glu Ala Leu Thr Ile Val Lys Glu Tyr Met Pro Glu Leu Ile  
 1105 1110 1115 1120  
 Ile Ser Asp Ile Met Met Pro Glu Met Arg Gly Asp Glu Leu Cys Ala  
 1125 1130 1135  
 Ala Ile Lys Asn Asp Ile Glu Thr Ser His Ile Pro Ile Ile Leu Leu  
 1140 1145 1150  
 Thr Ala Leu Asn Asp Glu Lys Asn Ile Leu Glu Gly Leu Lys Ile Gly  
 1155 1160 1165  
 Ala Asp Glu Tyr Ile Val Lys Pro Phe Asn Ile Gly Ile Leu Lys Ala  
 1170 1175 1180  
 Thr Ile Ala Asn Leu Leu Thr Asn Arg Ala Leu Leu Lys Ser Lys Tyr  
 1185 1190 1195 1200  
 Ala Asn Leu Glu Val Ser Glu Glu Glu Val Ser Pro Asn Cys Ala  
 1205 1210 1215  
 Thr Asp Leu Asp Trp Lys Phe Ile Ala Thr Val Lys Lys Ser Val Glu  
 1220 1225 1230  
 Glu Asn Ile Asp Asn Pro Ala Phe Asn Val Asp Val Leu Cys Asn Leu  
 1235 1240 1245  
 Leu Asn Met Ser Arg Thr Ser Phe Tyr Asn Lys Leu Lys Ala Leu Thr  
 1250 1255 1260  
 Asp Gln Ala Pro Ala Asp Tyr Ile Arg Leu Ile Arg Leu Lys Arg Ala  
 1265 1270 1275 1280  
 Ala Ala Leu Leu Lys Thr Gly Gln His Ser Val Thr Glu Ile Ser Glu  
 1285 1290 1295  
 Leu Thr Gly Phe Asn Asp Val Lys Tyr Phe Arg Glu Val Phe Lys Lys  
 1300 1305 1310  
 His Phe Lys Val Ser Pro Ser Lys Tyr Cys Lys Glu Gly Gly Lys Glu  
 1315 1320 1325  
 Asp Val Glu Glu Gln Gln Glu  
 1330 1335

&lt;210&gt; 7532

&lt;211&gt; 180

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7532

Met Asn Ile Tyr Leu Glu Ala Phe Gly Ile Phe Phe Lys Ile Gly Ala  
 1 5 10 15  
 Phe Thr Ile Gly Gly Tyr Ala Met Val Pro Leu Ile Glu Asn Glu  
 20 25 30  
 Ile Val Thr Lys Arg Asn Trp Ile Ser Lys Asp Asp Phe Ile Asp Leu  
 35 40 45  
 Leu Ala Ile Ala Gln Ser Ala Pro Gly Ile Leu Ala Val Asn Ile Ser  
 50 55 60  
 Ile Phe Ile Gly Tyr Lys Leu Arg Gly Ile Arg Gly Ser Leu Val Thr  
 65 70 75 80  
 Ala Leu Gly Thr Val Leu Pro Ser Phe Val Ile Ile Leu Ala Ile Ala  
 85 90 95  
 Met Phe Phe His Asn Phe Lys Asp Asn Pro Ile Val Glu Arg Ile Phe  
 100 105 110  
 Lys Gly Ile Arg Pro Ala Val Val Ala Leu Ile Ala Ala Pro Thr Phe  
 115 120 125  
 Ser Met Ala Lys Ser Ala Lys Val Asn Arg Tyr Thr Leu Trp Ile Pro  
 130 135 140  
 Val Val Ser Ala Leu Leu Ile Trp Leu Leu Gly Phe Ser Pro Ile Trp  
 145 150 155 160  
 Ile Ile Ile Ala Ala Gly Val Gly Gly Phe Cys Trp Gly Lys Trp Lys  
 165 170 175

Gln Ser His Pro  
180

<210> 7533

<211> 459

<212> PRT

<213> B.fragilis

<400> 7533

Asn	Arg	Ala	Tyr	Gln	Leu	Ser	Gly	Thr	Gly	Asn	Asp	Glu	Ile	Asn	Leu
1				5				10					15		
Leu	Asn	Lys	Tyr	Thr	Met	Lys	Val	Lys	Pro	Asp	Leu	Ser	Phe	Trp	Lys
				20				25					30		
Leu	Trp	Asn	Ile	Ser	Phe	Gly	Phe	Gly	Val	Gln	Ile	Ala	Tyr	Ala	
				35				40				45			
Leu	Gln	Ser	Ala	Asn	Ile	Ser	Arg	Ile	Phe	Ala	Thr	Leu	Gly	Ala	Asp
				50				55				60			
Pro	His	Ser	Leu	Ser	Tyr	Phe	Trp	Ile	Leu	Pro	Pro	Leu	Ala	Gly	Ile
				65				70			75		80		
Ile	Val	Gln	Pro	Ile	Ile	Gly	Ala	Ala	Ser	Asp	Lys	Thr	Trp	Thr	Arg
						85				90			95		
Phe	Gly	Arg	Arg	Ile	Pro	Tyr	Leu	Phe	Ala	Gly	Ser	Leu	Leu	Ala	Val
						100			105				110		
Trp	Val	Met	Cys	Leu	Leu	Pro	Asn	Ala	Gly	Ser	Phe	Gly	Met	Ala	Val
						115			120				125		
Gly	Thr	Ala	Met	Ile	Phe	Gly	Leu	Val	Ala	Leu	Met	Phe	Leu	Asp	Thr
				130				135				140			
Ser	Ile	Asn	Met	Ala	Met	Gln	Pro	Phe	Lys	Met	Leu	Val	Gly	Asp	Met
				145				150			155		160		
Val	Asn	Glu	Lys	Gln	Lys	Gly	Leu	Ala	Tyr	Ser	Ile	Gln	Ser	Phe	Leu
						165			170				175		
Cys	Asn	Val	Gly	Ser	Leu	Ile	Gly	Tyr	Leu	Phe	Pro	Phe	Ile	Phe	Thr
						180			185				190		
Phe	Ile	Gly	Ile	Ser	Asn	Thr	Ala	Asp	Lys	Gly	Thr	Val	Pro	Asp	Ser
						195			200				205		
Val	Ile	Tyr	Ser	Phe	Tyr	Ile	Gly	Ala	Ala	Ile	Leu	Ile	Leu	Cys	Val
						210			215				220		
Ile	Tyr	Thr	Thr	Val	Lys	Val	Lys	Glu	Met	Pro	Pro	Lys	Glu	Phe	Glu
				225				230			235		240		
Glu	Phe	His	Gly	Ile	Thr	Ala	Asp	Glu	Lys	Lys	Glu	Lys	Ala	Asp	Phe
						245			250				255		
Ile	Ser	Leu	Leu	Lys	His	Ala	Pro	Lys	Val	Phe	Trp	Thr	Val	Gly	Leu
						260			265				270		
Val	Gln	Phe	Phe	Cys	Trp	Ala	Ala	Phe	Met	Tyr	Met	Trp	Thr	Tyr	Thr
						275			280				285		
Asn	Gly	Ala	Ile	Ala	Ala	Thr	Val	Trp	Gly	Thr	Thr	Asp	Val	Gln	Ser
						290			295				300		
Ala	Gly	Tyr	Gln	Glu	Ala	Gly	Asn	Trp	Val	Gly	Val	Leu	Phe	Ala	Val
						305			310			315			320
Gln	Ala	Ile	Gly	Ser	Val	Ile	Trp	Ala	Val	Ile	Leu	Pro	Leu	Phe	Lys
						325			330				335		
Ala	Arg	Lys	Gln	Ala	Tyr	Ala	Leu	Ser	Leu	Val	Leu	Gly	Ile	Gly	
						340			345				350		
Phe	Ile	Ser	Thr	Leu	Phe	Phe	His	Asn	Glu	Tyr	Leu	Leu	Phe	Ile	Ser
						355			360				365		
Tyr	Leu	Leu	Ile	Gly	Cys	Ala	Trp	Ala	Ala	Met	Leu	Ala	Met	Pro	Phe
						370			375				380		
Thr	Ile	Leu	Thr	Asn	Ser	Val	Ser	Gly	Lys	Asn	Met	Gly	Ala	Tyr	Leu
						385			390				395		400

Gly Leu Phe Asn Gly Thr Ile Cys Val Pro Gln Ile Ala Ala Ala Leu  
           405                  410                  415  
 Val Gly Gly Gly Leu Leu His Leu Val Gly Gly His Gln Val Asn Met  
           420                  425                  430  
 Leu Val Leu Ala Gly Val Leu Leu Ile Ala Gly Ala Ala Cys Val Tyr  
           435                  440                  445  
 Phe Ile Lys Glu Thr Met Ala His His Glu Ala  
           450                  455

&lt;210&gt; 7534

&lt;211&gt; 1294

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7534

Ala Ile Arg Gln Thr Ile Ser Cys Phe His Ile Gly Ile Cys Leu Ile  
   1                5                10                15  
 Cys Phe Ser Ala Tyr Pro Val Ile Pro Pro Leu Thr Arg Gly Arg Leu  
   20                25                30  
 Lys Phe Phe Tyr Ser Ile Ser Phe Ser Pro Pro Thr Asn Leu Leu Ile  
   35                40                45  
 Phe Ala Arg Lys Glu Asn Lys Ile Val Tyr Thr His Met Ile Leu Phe  
   50                55                60  
 Phe Arg Thr Pro Ser Lys Ser Val Ile Ala Val Glu Ser Asn His Glu  
   65                70                75                80  
 Leu Asn Ala Asn Asp Asn Asn Lys Leu Cys Trp Leu Phe Gly Glu Ala  
   85                90                95  
 Met Pro Glu Ser Glu Glu Asn Leu Gln Gly Cys Phe Val Gly Pro Arg  
   100              105              110  
 Arg Glu Met Ile Thr Pro Trp Ser Thr Asn Ala Val Glu Ile Thr Gln  
   115              120              125  
 Asn Met Gly Leu Asp Gly Ile Ser Arg Ile Glu Glu Tyr Phe Pro Val  
   130              135              140  
 Lys Asp Glu Asn Ala Asp His Asp Pro Met Leu Gln Arg Met Tyr Lys  
   145              150              155              160  
 Gly Leu Asn Gln Asn Val Phe Thr Thr Asn Arg Gln Pro Glu Ala Ile  
   165              170              175  
 Ile Tyr Ile Asp Asp Leu Glu Ala Tyr Asn Glu Glu Gly Leu Ala  
   180              185              190  
 Leu Ser Lys Glu Glu Met Asp Tyr Leu Lys Lys Val Glu Ser Asp Leu  
   195              200              205  
 Gly Arg Arg Leu Thr Asp Ser Glu Val Phe Gly Phe Ala Gln Ile Asn  
   210              215              220  
 Ser Glu His Cys Arg His Lys Ile Phe Gly Gly Thr Phe Ile Ile Asp  
   225              230              235              240  
 Gly Val Glu Gln Glu Ser Ser Leu Phe Gln Met Ile Lys Lys Thr Thr  
   245              250              255  
 Gln Glu Asn Pro Asn Lys Ile Ile Ser Ala Tyr Lys Asp Asn Val Ala  
   260              265              270  
 Phe Ala Glu Gly Pro Val Val Glu Gln Phe Ala Pro Ala Asp His Ser  
   275              280              285  
 Lys Pro Asp Phe Phe Arg Ile Lys Asp Ile Lys Ser Val Ile Ser Leu  
   290              295              300  
 Lys Ala Glu Thr His Asn Phe Pro Thr Thr Val Glu Pro Phe Asn Gly  
   305              310              315              320  
 Ala Ser Thr Gly Thr Gly Glu Ile Arg Asp Arg Met Gly Gly Gly  
   325              330              335  
 Lys Gly Ser Trp Pro Ile Ala Gly Thr Ala Val Tyr Met Thr Ser Tyr  
   340              345              350

Pro Arg Thr Glu Glu Gly Arg Glu Trp Glu Asp Ile Leu Pro Val Arg  
 355 360 365  
 Lys Trp Leu Tyr Gln Thr Pro Glu Gln Ile Leu Ile Lys Ala Ser Asn  
 370 375 380  
 Gly Ala Ser Asp Phe Gly Asn Lys Phe Gly Gln Pro Leu Ile Cys Gly  
 385 390 395 400  
 Ser Val Leu Thr Phe Glu His Thr Glu Asn Asn Glu Thr Tyr Ala Tyr  
 405 410 415  
 Asp Lys Val Ile Met Leu Ala Gly Gly Val Gly Tyr Gly Thr Gln Arg  
 420 425 430  
 Asp Cys Leu Lys Gly Gln Pro Glu Ala Gly Asn Lys Val Val Val Ile  
 435 440 445  
 Gly Gly Asp Asn Tyr Arg Ile Gly Leu Gly Gly Ser Val Ser Ser  
 450 455 460  
 Val Asp Thr Gly Arg Tyr Ser Ser Gly Ile Glu Leu Asn Ala Val Gln  
 465 470 475 480  
 Arg Ala Asn Ala Glu Met Gln Lys Arg Ala Asn Asn Val Val Arg Ala  
 485 490 495  
 Leu Cys Glu Glu Asp Glu Asn Pro Val Val Ser Ile His Asp His Gly  
 500 505 510  
 Ser Ala Gly His Val Asn Cys Leu Ser Glu Leu Val Glu Glu Cys Gly  
 515 520 525  
 Gly Leu Ile Asp Met Ser Lys Leu Pro Ile Gly Asp Lys Thr Leu Ser  
 530 535 540  
 Ala Lys Glu Ile Ile Ala Asn Glu Ser Gln Glu Arg Met Gly Leu Leu  
 545 550 555 560  
 Ile Lys Glu Glu Ala Ile Glu His Val Arg Gln Ile Ala Glu Arg Glu  
 565 570 575  
 Arg Ala Pro Met Tyr Val Val Gly Glu Thr Thr Gly Asp His Arg Phe  
 580 585 590  
 Ala Phe Gln Gln Ala Asp Gly Val Arg Pro Phe Asp Leu Ala Val Asp  
 595 600 605  
 Gln Met Phe Gly Ser Ser Pro Lys Thr Tyr Met Ile Asp Lys Thr Val  
 610 615 620  
 Glu Arg His Tyr Thr Met Pro Glu Tyr Glu Thr Ser Lys Leu His Glu  
 625 630 635 640  
 Tyr Leu Thr Gln Val Leu Gln Leu Glu Ala Val Ala Cys Lys Asp Trp  
 645 650 655  
 Leu Thr Asn Lys Val Asp Arg Ser Val Thr Gly Lys Val Ala Arg Gln  
 660 665 670  
 Gln Cys Gln Gly Glu Ile Gln Leu Pro Leu Ser Asp Cys Gly Val Val  
 675 680 685  
 Ala Leu Asp Tyr Arg Gly Glu Lys Gly Ile Ala Thr Ser Ile Gly His  
 690 695 700  
 Ala Pro Gln Ala Ala Leu Ala Asp Pro Ala Ala Gly Ser Ile Leu Ser  
 705 710 715 720  
 Val Ser Glu Ala Leu Thr Asn Leu Val Trp Ala Pro Leu Ala Glu Gly  
 725 730 735  
 Leu Asp Ser Val Ser Leu Ser Ala Asn Trp Met Trp Pro Cys Arg Ser  
 740 745 750  
 Gln Glu Gly Glu Asp Ala Arg Leu Tyr Thr Ala Val Lys Ala Leu Ser  
 755 760 765  
 Asp Phe Cys Cys Ala Leu Gln Ile Asn Val Pro Thr Gly Lys Asp Ser  
 770 775 780  
 Leu Ser Met Thr Gln Lys Tyr Pro Asn Gly Glu Lys Val Val Ser Pro  
 785 790 795 800  
 Gly Thr Val Ile Val Ser Ala Gly Gly Glu Val Ser Asp Val Lys Lys  
 805 810 815  
 Val Val Ser Pro Val Leu Val Asn Asp Ala Lys Thr Thr Leu Tyr His

820	825	830
Ile Asp Phe Ser Phe Asp Asn Leu Lys Leu Gly Gly Ser Ala Phe Ala		
835	840	845
Gln Ser Leu Gly Lys Val Gly Ser Glu Val Pro Cys Val Gln Asp Ala		
850	855	860
Glu Tyr Phe Arg Asp Ala Phe Leu Ala Val Gln Glu Leu Val Asn Lys		
865	870	875
Gly Leu Ile Leu Ala Gly His Asp Ile Ser Ala Gly Gly Leu Ile Thr		
885	890	895
Thr Leu Leu Glu Met Cys Phe Ala Asn Val Glu Gly Gly Leu Glu Ile		
900	905	910
Ser Leu Asp Lys Met Lys Glu Thr Asp Ile Val Lys Ile Leu Phe Ala		
915	920	925
Glu Asn Pro Gly Ile Val Ile Gln Ile Ser Asp Lys His Lys Asp Glu		
930	935	940
Val Lys Lys Ile Leu Glu Asp Ala Gly Val Gly Phe Ile Lys Leu Gly		
945	950	955
Lys Pro Thr Asp Glu Arg His Ile Leu Val Asn Lys Glu Gly Ala Thr		
965	970	975
Tyr Gln Phe Gly Ile Asp Tyr Met Arg Asp Val Trp Tyr Ser Ser Ser		
980	985	990
Tyr Leu Leu Asp Arg Lys Gln Ser Met Asn Gly Cys Ala Lys Lys Arg		
995	1000	1005
Phe Glu Asn Tyr Lys Met Gln Pro Leu Glu Phe Ala Phe Met Pro Gly		
1010	1015	1020
Phe Lys Gly Lys Leu Ser Gln Tyr Gly Ile Thr Pro Glu Arg Arg Thr		
1025	1030	1035
Pro Ser Gly Ile Arg Ala Ala Ile Ile Arg Glu Lys Gly Thr Asn Gly		
1045	1050	1055
Glu Arg Glu Met Ala Tyr Ser Leu Tyr Leu Ala Gly Phe Asp Val Lys		
1060	1065	1070
Asp Val Thr Met Thr Asp Leu Ile Ser Gly Arg Glu Thr Leu Glu Asp		
1075	1080	1085
Val Asn Met Ile Val Tyr Cys Gly Gly Phe Ser Asn Ser Asp Val Leu		
1090	1095	1100
Gly Ser Ala Lys Gly Trp Ala Gly Gly Phe Leu Phe Asn Pro Lys Ala		
1105	1110	1115
Lys Glu Ala Leu Asp Lys Phe Tyr Ala Arg Glu Asp Thr Leu Ser Leu		
1125	1130	1135
Gly Ile Cys Asn Gly Cys Gln Leu Met Met Glu Leu Gly Leu Val Asn		
1140	1145	1150
Pro Glu His Glu Lys Lys Gly Lys Met Leu His Asn Glu Ser His Lys		
1155	1160	1165
Phe Glu Ser Thr Phe Val Gly Val Thr Ile Pro Thr Asn Arg Ser Val		
1170	1175	1180
Met Phe Gly Ser Leu Ser Gly Ser Lys Leu Gly Ile Trp Val Ala His		
1185	1190	1195
Gly Glu Gly Lys Phe Ser Leu Pro Tyr Asp Glu Asp Gln Tyr Asn Val		
1205	1210	1215
Val Ala Lys Tyr Ser Tyr Asp Glu Tyr Pro Gly Asn Pro Asn Gly Ser		
1220	1225	1230
Asp Tyr Ser Ile Ala Ala Leu Ala Ser Ala Asp Gly Arg His Leu Ala		
1235	1240	1245
Met Met Pro His Leu Glu Arg Ala Ile Phe Pro Trp Gln Asn Ala Cys		
1250	1255	1260
Tyr Pro Ala Asp Arg Val His Asn Asp Gln Val Thr Pro Trp Ile Glu		
1265	1270	1275
Ala Phe Val Asn Ala Arg Lys Trp Val Glu Glu Lys Lys Lys		
1285	1290	

<210> 7535  
<211> 1021  
<212> PRT  
<213> B.fragilis

<400> 7535

Ser	Val	Val	His	Ser	Lys	Pro	Tyr	Thr	Ile	Met	Asn	Leu	Ala	Lys	Tyr
1				5					10					15	
Ser	Leu	Asp	Asn	Thr	Lys	Val	Ile	Tyr	Phe	Phe	Leu	Ala	Val	Leu	Leu
				20				25					30		
Ile	Gly	Gly	Val	Phe	Ser	Phe	Gly	Lys	Leu	Gly	Lys	Lys	Glu	Asp	Ala
				35			40				45				
Pro	Phe	Val	Ile	Lys	Ser	Ala	Val	Ile	Met	Thr	Arg	Tyr	Pro	Gly	Ala
				50			55			60					
Glu	Pro	Ala	Glu	Val	Glu	Arg	Leu	Ile	Thr	Glu	Pro	Ile	Ser	Arg	Glu
				65			70			75			80		
Ile	Gln	Ser	Met	Ser	Gly	Val	Tyr	Lys	Ile	Lys	Ser	Glu	Ser	Met	Tyr
				85				90				95			
Gly	Ile	Ser	Lys	Ile	Thr	Phe	Glu	Leu	Leu	Pro	Ser	Leu	Pro	Ala	Ser
				100			105				110				
Ser	Ile	Pro	Gln	Lys	Trp	Asp	Glu	Leu	Arg	Arg	Lys	Val	Leu	Asn	Ile
				115			120				125				
Gln	Pro	Gln	Leu	Pro	Ser	Gly	Ser	Ser	Val	Pro	Thr	Val	Ser	Asp	Asp
				130			135			140					
Phe	Gly	Asp	Val	Phe	Gly	Ile	Tyr	Tyr	Gly	Leu	Thr	Ala	Asp	Asp	Gly
				145			150			155			160		
Phe	Ser	Tyr	Glu	Glu	Met	Arg	Asn	Trp	Ala	Glu	Arg	Ile	Lys	Thr	Gln
				165				170			175				
Val	Val	Thr	Ala	Asp	Gly	Val	Met	Lys	Val	Ala	Leu	Phe	Gly	Thr	Gln
				180			185			190					
Thr	Glu	Val	Val	Asn	Ile	Ser	Ile	Ser	Val	Asn	Lys	Leu	Ala	Gly	Met
				195			200			205					
Gly	Ile	Asp	Pro	Lys	Gln	Leu	Ala	Gly	Leu	Leu	Gln	Ser	Gln	Asn	Gln
				210			215			220					
Ile	Ile	Asn	Thr	Gly	Glu	Ile	Thr	Ala	Gly	Glu	Gln	Gln	Leu	Arg	Val
				225			230			235			240		
Val	Ala	Asn	Gly	Met	Tyr	Thr	Thr	Val	Asp	Asp	Ile	Arg	Asn	Gln	Val
				245			250			255					
Ile	Thr	Thr	Arg	Ala	Gly	Gln	Val	Lys	Leu	Gly	Asp	Ile	Ala	Val	Ile
				260			265			270					
Glu	Lys	Gly	Tyr	Met	Asp	Pro	Pro	Gly	Thr	Ile	Met	Arg	Val	Asn	Gly
				275			280			285					
Lys	Arg	Ala	Ile	Gly	Ile	Gly	Val	Ser	Thr	Asp	Pro	Gln	Arg	Asp	Val
				290			295			300					
Val	Leu	Thr	Gly	Glu	Met	Val	Asp	Lys	Leu	Ala	Glu	Leu	Leu	Pro	
				305			310			315			320		
Leu	Met	Pro	Val	Gly	Leu	Asn	Leu	Glu	Ser	Leu	Tyr	Leu	Glu	Asn	Val
					325			330			335				
Ile	Ala	Lys	Glu	Ala	Asn	Asn	Gly	Phe	Ile	Ile	Asn	Leu	Ile	Glu	Ser
					340			345			350				
Ile	Leu	Ile	Val	Ile	Val	Ile	Ile	Met	Leu	Val	Met	Gly	Met	Arg	Ala
					355			360			365				
Gly	Val	Leu	Ile	Gly	Thr	Ser	Leu	Val	Phe	Ser	Ile	Gly	Gly	Thr	Leu
				370			375			380					
Leu	Ile	Met	Ser	Phe	Met	Gly	Val	Gly	Leu	Asn	Arg	Thr	Ser	Leu	Ala
				385			390			395			400		
Gly	Phe	Ile	Ile	Ala	Met	Gly	Met	Leu	Val	Asp	Asn	Ala	Ile	Val	Val
					405			410			415				

Thr Asp Asn Ala Gln Ile Ala Ile Ala Arg Gly Val Asp Arg Arg Lys  
 420 425 430  
 Ala Leu Ile Asp Gly Ala Thr Gly Pro Gln Trp Gly Leu Leu Gly Ala  
 435 440 445  
 Thr Phe Ile Ala Ile Cys Ser Phe Leu Pro Leu Tyr Leu Ala Pro Ser  
 450 455 460  
 Ser Val Ala Glu Ile Val Lys Pro Leu Phe Val Val Leu Ala Ile Ser  
 465 470 475 480  
 Leu Gly Leu Ser Trp Val Leu Ala Leu Thr Gln Thr Thr Val Phe Gly  
 485 490 495  
 Asn Phe Ile Leu Lys Ser Lys Ala Lys Asn Ala Gly Lys Asp Pro Tyr  
 500 505 510  
 Asp Lys Pro Phe Tyr His Lys Phe Glu Lys Ile Leu Ser Val Leu Ile  
 515 520 525  
 Arg Arg Lys Ile Val Thr Leu Gly Ser Met Ile Val Leu Phe Val Val  
 530 535 540  
 Ser Leu Val Val Met Gly Met Met Pro Gln Asn Phe Phe Pro Ser Leu  
 545 550 555 560  
 Asp Lys Pro Tyr Phe Arg Ala Asp Val Phe Tyr Pro Asp Gly Tyr Gly  
 565 570 575  
 Val Asn Asp Val Ala Arg Glu Met Lys Lys Val Glu Ala His Leu Leu  
 580 585 590  
 Lys Leu Pro Glu Val Lys Lys Val Ser Ile Thr Phe Gly Ser Thr Pro  
 595 600 605  
 Leu Arg Tyr Tyr Leu Ala Ser Thr Ser Val Gly Pro Lys Pro Asn Phe  
 610 615 620  
 Ala Asn Val Leu Val Glu Leu Asn Asp Ser Lys Tyr Thr Lys Glu Tyr  
 625 630 635 640  
 Glu Glu Lys Phe Asp Val Tyr Met Lys Ala Asn Phe Pro Asn Ala Ile  
 645 650 655  
 Thr Arg Thr Ser Leu Phe Lys Leu Ser Pro Ala Val Asp Ala Ala Ile  
 660 665 670  
 Glu Ile Gly Phe Ile Gly Pro Asn Val Asp Thr Leu Val Ala Leu Thr  
 675 680 685  
 Asn Gln Ala Leu Glu Ile Met His Arg Asn Pro Asp Leu Ile Asn Ile  
 690 695 700  
 Arg Asn Ser Trp Gly Asn Lys Ile Pro Ile Trp Lys Pro Ile Tyr Ser  
 705 710 715 720  
 Pro Glu Arg Ala Gln Pro Leu Gly Val Ser Arg Gln Gly Met Ala Gln  
 725 730 735  
 Ser Ile Gln Ile Gly Thr Asn Gly Met Thr Leu Gly Glu Phe Arg Gln  
 740 745 750  
 Gly Asp Gln Val Leu Pro Ile Leu Leu Lys Gly Asn Ser Val Ala Asp  
 755 760 765  
 Ser Phe Arg Ile Asn Asp Leu Arg Thr Leu Pro Val Phe Gly Asn Gly  
 770 775 780  
 Pro Glu Thr Thr Ser Leu Glu Gln Val Val Ser Glu Phe Asp Phe Arg  
 785 790 795 800  
 Tyr Arg Phe Ser Asn Val Lys Asp Tyr Asn Arg Gln Leu Val Met Met  
 805 810 815  
 Ala Gln Cys Asp Pro Arg Arg Gly Val Asn Ala Ile Ala Phe Asn  
 820 825 830  
 Gln Ile Trp Ser Gln Val Gln Lys Glu Ile Lys Ile Pro Glu Gly Tyr  
 835 840 845  
 Thr Leu Lys Tyr Phe Gly Glu Gln Glu Ser Gln Val Glu Ser Asn Glu  
 850 855 860  
 Ala Leu Ala Lys Asn Leu Pro Leu Thr Phe Phe Leu Met Phe Thr Thr  
 865 870 875 880  
 Leu Leu Leu Phe Lys Thr Tyr Arg Lys Pro Thr Val Ile Leu Leu

885	890	895
Met Leu Pro Leu Ile Phe Ile Gly Ile Val Leu Gly Leu	Leu	Leu Leu
900	905	910
Gly Lys Ser Phe Asp Phe Phe Ala Ile Leu Gly Leu	Leu	Gly Leu Ile
915	920	925
Gly Met Asn Ile Lys Asn Ala Ile Val Leu Val Asp Gln	Ile	Asp Ile
930	935	940
Glu Asn Gln Ser Gly Leu Asp Pro Arg Lys Ala Val	Ile	Lys Ala Thr
945	950	955
Ile Ser Arg Ile Val Pro Val Ala Met Ala Ser Gly	Thr	Thr Ile Leu
965	970	975
Gly Met Leu Pro Leu Leu Phe Asp Ala Met Phe Gly	Gly	Met Ala Ala
980	985	990
Thr Ile Met Gly Gly Leu Leu Val Ala Ser Ala Leu	Thr	Leu Phe Val
995	1000	1005
Leu Pro Val Ala Tyr Cys Ala Ile His Arg Ile Lys	Gly	
1010	1015	1020

&lt;210&gt; 7536

&lt;211&gt; 437

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7536

Leu Ile Leu Asn Met Lys Arg Met Lys Ala Met His Trp	Met	Tyr
1	5	10
Thr Leu Leu Gly Ile Thr Leu Leu Leu	Thr Ala Cys Val	Asp Asp Asp
20	25	30
Lys Asp Leu Ser Gln Pro Lys Glu Pro Glu Lys Thr	Thr Asp Leu Ile	
35	40	45
Ile Pro Asp Asp Ala Asp Trp	Thr Thr Arg Ser Val Asn	Leu Ser
50	55	60
Ile His Ser Pro Val Ala Thr Arg Val Ala Ile	Tyr Thr Asp Ala	Ala
65	70	75
Cys Thr Asp Glu Ser Leu Leu Ala Glu	Thr Pro Val Ser Asp	Thr Ser
85	90	95
Lys Ser Ile Glu Leu Asp Val Ala Lys Ala Asn Arg	Ala Leu Tyr Val	
100	105	110
Gln Tyr Pro Ala Gly Lys Gly Lys Glu Val Ile	Ser Val Pro Ile Asn	
115	120	125
Arg Ala Ser Thr Arg Ala Glu Leu Ser Ile Lys	Leu Pro Glu Asn	Val
130	135	140
Ser Gly Phe Asp Thr Asn Gly Gly Glu	Ala Tyr Ser Tyr Gln Trp	
145	150	155
Tyr Pro Val Lys Gly Gly Glu Ala	Thr Leu Met Met Glu Asp	Asn Trp
165	170	175
Pro Glu Thr Gly Asp Tyr Asp Phe Asn Asp Phe	Val Ile Gly Tyr Arg	
180	185	190
Thr Gln Ala Thr Phe Asp Gly His Gly	Gly Ser Lys Lys Asp	Tyr
195	200	205
Glu Gln Asp Gly Leu Glu Ile Lys Ile	Thr Phe Arg Ala Met	Gly Gly
210	215	220
Tyr Leu Pro Tyr Arg Leu Gly Leu Gln	Leu Asp Lys Thr His	Ala Arg
225	230	235
Tyr Ile Asp Asp Val Ile Glu Ile Glu Gly Asn	Asp Leu Val Lys	Met
245	250	255
Glu Leu Gln Asn Pro Gly Glu Asp Ala Pro Ala	Ile Phe Ile Phe	Thr
260	265	270
Gly Thr Glu Gln Leu Arg Lys Arg Asn Asn	Gly Thr Phe	Tyr Asn

275	280	285
Thr Glu Pro Asp His Ala Ile	Ala Asn Asn Asp	Leu Val Thr Ile Lys
290	295	300
Tyr Arg Leu Lys Ile Asn Cys Phe Lys Asn	Leu Glu Lys Thr Gln Ala	
305	310	315
Leu Trp Ala Ala Ala Thr Ser Glu Asn Gln Asn	Phe Leu Gln Lys	
325	330	335
Glu Lys Asn Gly Gly Arg Glu Ile His Leu Arg Gly	Tyr Glu Pro Thr	
340	345	350
Ala Tyr Tyr Ser Asn Ser Tyr Ala Gly Glu Ala	Gly Asn Met Arg	
355	360	365
Thr Asp Ile Lys Tyr Cys Ser Thr Asp Asn Phe	Val Trp Gly Ile Lys	
370	375	380
Ile Pro Val Ala Ile Pro His Pro Ile Glu Lys	Ile Asp Ile Met Gln	
385	390	395
Val Tyr Ser Lys Phe Arg Ser Trp Ile Thr Glu	Pro Asn His Ser Asp	
405	410	415
Pro Ser Ser Pro Asp Phe Asn Glu Asn Trp Phe	Lys Tyr Tyr Asp Thr	
420	425	430
Ser Lys Val Ile Gly		
435		

&lt;210&gt; 7537

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7537

Lys Ser Arg Asn Val Met Lys Lys Leu Met Trp Ile Val Cys	Leu		
1	5	10	15
Val Val Ser Val Thr Val Gln Ala Gln Phe Glu Lys Gly	Lys Trp Ile		
20	25	30	
Val Asn Pro Ser Val Thr Gly Leu Gly Leu Ser Tyr Ser	Lys Ser Glu		
35	40	45	
Lys Thr Gln Phe Gly Leu Gln Ala Gln Gly Gly	Ala Phe Leu Val Asp		
50	55	60	
Asn Val Ala Leu Met Leu Thr Ala Gly Ala Asn Trp Ser	Lys Pro Glu		
65	70	75	80
Asp Lys Tyr Thr Leu Gly Val Gly Gly Arg Tyr Tyr Phe	Asp Lys Cys		
85	90	95	
Gly Ile Tyr Leu Gly Ala Gly Leu Lys Met Asn Arg Tyr	Asn Trp Lys		
100	105	110	
Val Gly Asp Thr Thr Asp Phe Ala Phe Gly Ala Glu	Ala Gly Tyr Ala		
115	120	125	
Phe Phe Leu Thr Arg Thr Val Thr Ile Glu Pro Ala Val	Tyr Tyr Asp		
130	135	140	
Leu Ser Phe Lys Asp Ser Asp Leu Ser Lys Phe Gly	Leu Lys Val Gly		
145	150	155	160
Phe Gly Phe Tyr Phe			
165			

&lt;210&gt; 7538

&lt;211&gt; 354

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7538

Ser Met Gly Asn Met Lys Lys Asn Tyr Gly Cys Ile Leu Ala	Ala Leu		
1	5	10	15

Ile Leu Leu Thr Ala Cys Gly Gln Lys Lys Glu Asp Ser Val Thr Thr  
 20 25 30  
 Val Arg Pro Val Lys Thr Ala Arg Val Glu Ser Arg Ser Glu Ile Arg  
 35 40 45  
 Lys Asp Phe Ser Gly Ile Val Glu Ala Val Asp Tyr Val Lys Leu Ala  
 50 55 60  
 Phe Arg Val Ser Gly Gln Ile Ile Asn Leu Pro Val Val Glu Gly Gln  
 65 70 75 80  
 Arg Val Lys Lys Gly Gln Leu Ile Ala Ala Ile Asp Pro Arg Asp Leu  
 85 90 95  
 Ala Leu Gln Tyr Ala Ala Asp Lys Ser Ala Tyr Glu Thr Ala Ala Ala  
 100 105 110  
 Gln Val Glu Arg Asn Lys Arg Leu Leu Ala Arg Gln Ala Ile Ser Val  
 115 120 125  
 Gln Glu Tyr Glu Ile Ser Val Ser Thr Phe Gln Gln Lys Lys Ser Ala  
 130 135 140  
 Tyr Glu Leu Ser Ser Asn Asn Met Arg Asp Thr Arg Leu Thr Ala Pro  
 145 150 155 160  
 Phe Asp Gly Ser Ile Glu Lys Arg Leu Val Glu Asn Tyr Gln Arg Val  
 165 170 175  
 Asn Ser Gly Glu Gly Ile Val Gln Leu Val Asn Thr Lys Lys Leu Arg  
 180 185 190  
 Ile Lys Phe Thr Ile Pro Asp Ala Tyr Leu Tyr Leu Leu Arg Ser Lys  
 195 200 205  
 Asp Gln Arg Phe Arg Val Glu Phe Asp Thr Tyr Arg Gly His Ile Phe  
 210 215 220  
 Asn Ala Lys Leu Glu Glu Tyr Leu Asp Ile Ser Thr Asp Gly Thr Gly  
 225 230 235 240  
 Ile Pro Val Thr Ile Thr Ile Asp Asp Pro Ala Phe Asp His Ala Leu  
 245 250 255  
 Tyr Glu Val Lys Pro Gly Phe Thr Cys Ser Ile Arg Phe Ser Ala Asp  
 260 265 270  
 Val Gly Pro Phe Leu Glu Glu Ser Met Thr Val Val Pro Leu Ser Ala  
 275 280 285  
 Ile Phe Gly Glu Ser Glu Gly Asn Lys Thr Tyr Val Trp Val Leu Asn  
 290 295 300  
 Gly Asn Gln Val Asn Arg Arg Glu Val Thr Val Tyr Ser Pro Met Gly  
 305 310 315 320  
 Asp Ala Gln Ala Phe Ile Ser Lys Gly Leu Lys Ala Gly Glu Thr Val  
 325 330 335  
 Val Thr Ala Gly Val Thr Gln Leu Val Glu Gly Glu Thr Val Lys Glu  
 340 345 350  
 Leu Lys

<210> 7539  
 <211> 773  
 <212> PRT  
 <213> B. fragilis

<400> 7539  
 Lys Ala Met Lys Gln Phe Leu Lys Val Asp Glu Trp Asn Ile Ile Glu  
 1 5 10 15  
 Glu Gly Phe His Pro Asp Asn Met Arg Ala Ser Glu Ser Ile Phe Ser  
 20 25 30  
 Leu Gly Asn Gly Arg Phe Gly Gln Arg Gly Asn Phe Glu Glu Thr Tyr  
 35 40 45  
 Ser Ser Asp Ser Leu Gln Gly Ser Tyr Val Ala Gly Ile Thr Phe Leu  
 50 55 60

Asp Arg Thr Arg Val Gly Trp Trp Lys Asn Gly Tyr Pro Arg Phe Phe  
 65 70 75 80  
 Ser Arg Val Pro Asn Ala Pro Asp Trp Ser Gly Ile Tyr Leu Arg Leu  
 85 90 95  
 Ile Asp Glu Glu Leu Asp Leu Val His Trp Asp Val Glu Ala Tyr Arg  
 100 105 110  
 Arg Arg Leu Asp Met Arg Glu Gly Ile Ser Tyr Arg Asp Phe Arg Val  
 115 120 125  
 Thr Ser Pro Lys Gly His Thr Leu Glu Val His Val Glu His Ile Asn  
 130 135 140  
 Ser Leu Ala Asn Gln Asn Leu Cys Leu Ile Lys Tyr Ser Val Thr Ser  
 145 150 155 160  
 Val Asn Tyr Glu Gly Ile Ser Leu Val Pro Phe Leu Asn Gly Asp  
 165 170 175  
 Val Lys His Glu Asn Ser Asn Phe Asp Glu Lys Met Trp Asn Ile Leu  
 180 185 190  
 Arg Ala Glu Ala Thr Asn Glu Tyr Ala Tyr Leu Trp Val Gln Thr Lys  
 195 200 205  
 His Glu Asp Ser Gln Ile Cys Leu Gly Met Thr Tyr Arg Phe Tyr Lys  
 210 215 220  
 Asn Ser Lys Pro Thr His Ile Ser Pro Ile Lys Ile Glu Lys Glu Lys  
 225 230 235 240  
 Leu Thr Gly Phe Ser Ala Gly Ala Asp Val Lys Pro Gly Asp Arg Val  
 245 250 255  
 Thr Leu Glu Lys Tyr Val Ala Ile Leu Ser Ser Leu Gln Cys Asp Arg  
 260 265 270  
 Gln Glu Leu Val Glu Tyr Ala Val Asp Glu Ala Gln Ala Ala Lys Glu  
 275 280 285  
 Gln Gly Trp Glu Ala Leu Val Gly Ala His Lys Gln Gln Trp Glu Glu  
 290 295 300  
 Ile Trp Glu Glu Ser Asp Val Met Ile Glu Gly Asp Pro Ala Ala Gln  
 305 310 315 320  
 Gln Gly Ile Arg Phe Asn Ile Phe Gln Leu Asn Gln Ser Tyr Arg Gly  
 325 330 335  
 Asp Asp Ala Arg Leu Asn Ile Ser Pro Lys Gly Phe Thr Gly Glu Lys  
 340 345 350  
 Tyr Gly Gly Asn Thr Gln Trp Asn Thr Glu Leu Cys Cys Val Pro Tyr  
 355 360 365  
 Phe Leu Leu Ser Thr Pro Arg Glu Ile Ser Arg Lys Leu Leu Leu Tyr  
 370 375 380  
 Arg Tyr Asn Gln Leu Pro Lys Ala Ile Glu Asn Ala Arg Lys Leu Gly  
 385 390 395 400  
 Phe Gly Gly Gly Ala Ala Leu Tyr Pro Met Val Thr Ile His Gly Glu  
 405 410 415  
 Glu Cys His Asn Glu Trp Glu Ile Thr Phe Glu Glu Ile His Arg Asn  
 420 425 430  
 Asn Ile Ile Val Tyr Ala Ile Met Gln Phe Ser Arg Val Thr Gly Asn  
 435 440 445  
 Lys Glu Tyr Ile Ala Tyr Tyr Gly Leu Glu Val Met Ile Ala Ile Ser  
 450 455 460  
 Arg Phe Trp Ser Gln Arg Val Ser Phe Ser Glu Ala Arg Gln Lys Tyr  
 465 470 475 480  
 Val Leu Leu Gly Val Thr Gly Pro Asn Glu Tyr Glu Asn Asn Val Asn  
 485 490 495  
 Asn Asn Trp Tyr Thr Asn Tyr Ser Cys Val Gln Cys Leu Gln Ser Thr  
 500 505 510  
 Ile Glu Cys Leu Glu Met Val Ala His Glu Tyr Pro Glu Glu Tyr Asn  
 515 520 525  
 Arg Ile Arg Arg Ser Thr Glu Phe Arg His Ala Glu Glu Thr Ala Arg

530	535	540
Trp Lys Glu Ile Ile Glu Lys Met Tyr Leu Pro Glu Asp Lys Glu Arg		
545	550	555
Gly Ile Phe Val Gln Asp Asp Gly Tyr Pro Asp Lys Val Leu Gly Thr		560
565	570	575
Val Asp Asp Ile Pro Val Asn Glu Arg Pro Ile Asn Gln His Trp Ser		
580	585	590
Trp Asp Arg Ile Leu Arg Ser Cys Tyr Ile Lys Gln Ser Asp Val Leu		
595	600	605
Leu Gly Leu Phe Leu Tyr Tyr Glu His Phe Asp Arg Glu Thr Ile Arg		
610	615	620
Arg Asn Phe Arg Phe Tyr Glu Pro Arg Thr Val His Glu Ser Ser Leu		
625	630	635
Ser Pro Phe Val His Ala Ile Leu Ala Ala Trp Ile Gly Asp Thr Glu		640
645	650	655
Glu Ala Tyr Arg Leu Phe Leu His Ser Thr Arg Leu Asp Leu Asp Asp		
660	665	670
Tyr Asn Asn Glu Val His Gln Gly Leu His Val Thr Ser Met Ala Gly		
675	680	685
Ser Trp Gln Ile Ile Val Arg Gly Phe Ala Gly Met Lys Ile Leu Asp		
690	695	700
Gly Gln Leu Asp Phe Thr Pro Ile Ile Pro Glu Ala Trp Asp Ser Tyr		
705	710	715
Thr Phe Lys Val Asn Phe Arg Asn Cys Thr Leu Gln Met Lys Val Gly		720
725	730	735
Lys Gln Glu Ile Lys Ile Ser Leu Leu Glu Gly Tyr Glu Leu Asn Ile		
740	745	750
Arg Ile Ser Glu Val Val Tyr Asn Leu Lys Lys Gly Lys Asp Leu Ile		
755	760	765
Val Pro Lys Gln Asn		
770		

<210> 7540

<211> 97

<212> PRT

<213> B.fragilis

<400> 7540

Gln Ile Lys Leu Cys Ala Leu Phe Ile Phe Arg Ala Ile Leu Trp Tyr		
1	5	10
Glu Trp Trp Glu Met Ile Leu Asp Gln Arg Gln Val Arg Gly Asp Leu		15
20	25	30
Phe Cys His Glu Gly Ile Leu Leu Ser Leu Ala Asp Arg Gly Cys Val		
35	40	45
Gly Leu Lys Ser Gly Ser Leu Trp Phe Lys Arg Glu Gly Thr Leu Ile		
50	55	60
Leu Asn Gln Tyr Pro Leu Ser Phe Lys Leu Lys Ser His Ser Arg Tyr		
65	70	75
Ser Cys Phe Trp Ser Thr Phe Cys Leu Ser Ala Val Tyr Phe Tyr Ala		80
85	90	95

Ser

<210> 7541

<211> 80

<212> PRT

<213> B.fragilis

<400> 7541

Gly Cys Asp Cys Phe His Phe Pro Gln Gln Lys Pro Pro Thr Pro Ala  
 1 5 10 15  
 Ala Ile Ile Ile Gln Met Gly Glu Lys Pro Asn Asn Gln Met Ser Arg  
 20 25 30  
 Ala Glu Thr Thr Gly Ile Gln Arg Val Tyr Arg Leu Thr Leu Ala Asp  
 35 40 45  
 Phe Ala Met Leu Lys Val Gly Ala Ala Ile Ser Ala Thr Thr Ala Gly  
 50 55 60  
 Arg Ile Pro Leu Lys Ile Arg Ser Thr Met Gly Leu Ser Leu Lys Leu  
 65 70 75 80

&lt;210&gt; 7542

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7542

Lys Pro Ile Cys Thr Met Ser Lys Pro Gln Ile Thr Ile Lys Asp Ile  
 1 5 10 15  
 Ala Arg Glu Leu Gly Val Ser Pro Ser Thr Val Ser Arg Ala Leu Lys  
 20 25 30  
 Asp Asn Pro Asp Ile Ser Gln Glu Thr Arg Asp Ala Ile His Lys Tyr  
 35 40 45  
 Ala Arg Glu His Asn Tyr Lys Pro Asn Val Leu Ala Leu Asn Leu Arg  
 50 55 60  
 Thr Ser Arg Ser Asn Thr Ile Gly Val Ile Ile Pro Gln Leu Val His  
 65 70 75 80  
 His Phe Phe Ser Cys Val Leu Ser Gly Ile Glu Arg Thr Ala Ala Glu  
 85 90 95  
 Ala Gly Tyr Asn Ile Leu Val Ala Gln Ser Asn Glu Glu Tyr Glu Arg  
 100 105 110  
 Glu Val Lys Ile Val His Ser Phe Leu Ala Ala Arg Val Cys Gly Val  
 115 120 125  
 Ile Thr Ser Leu Ala Lys Asp Thr Ser Arg Tyr Asp His Tyr Gln Glu  
 130 135 140  
 Leu Leu Asp Asn Asn Ile Pro Ile Val Phe Tyr Asp Arg Ile Cys Thr  
 145 150 155 160  
 Gly Ile Asn Thr Glu Arg Val Val Val Asp Asp Tyr Ala Gly Ser Phe  
 165 170 175  
 Ala Ala Val Glu Tyr Met Ile Gln Thr Gly Cys Lys Arg Ile Phe Phe  
 180 185 190  
 Tyr Ser Ala Ala Pro His Leu Glu Ile Ser Lys Asn Arg Arg Asn Gly  
 195 200 205  
 Tyr Met Asp Ala Met Lys Lys Tyr Arg Ile Pro Val Asp Gln Ser Met  
 210 215 220  
 Ile Lys Leu Cys Asp Ser Arg Glu Lys Ala Ile Ala Ile Thr Pro Ala  
 225 230 235 240  
 Leu Leu Glu Arg Pro Asp His Pro Asp Gly Phe Phe Ala Ile Asn Asp  
 245 250 255  
 Glu Thr Ala Ser Gly Ile Leu Tyr Ser Cys Lys Leu Thr Gly Arg Lys  
 260 265 270  
 Val Pro Asp Glu Val Ser Ile Cys Gly Phe Thr Asp Gly Ala Ile Ala  
 275 280 285  
 Gln Ser Thr Asp Pro Lys Leu Thr Thr Val Glu Gln His Gly Glu Glu  
 290 295 300  
 Val Gly Lys Ser Thr Ile Arg Leu Leu Ile Asp Lys Leu Glu Gly Asn  
 305 310 315 320  
 Asp Glu Gly Lys Ser Gly Asn Lys Ile Val Arg Thr Asn Leu Val Val  
 325 330 335

Arg Gly Thr Thr Lys  
340

<210> 7543

<211> 279

<212> PRT

<213> B.fragilis

<400> 7543

Lys	Pro	Ile	Met	Asn	Leu	Arg	Lys	Leu	Ile	Leu	Leu	Ala	Leu	Phe	
1														15	
Leu	Ala	Thr	Gly	Val	Gly	Ala	Gln	Ile	Gln	Gln	Gln	Ser	Pro	Tyr	Pro
								20	25				30		
Lys	Arg	Glu	Phe	Arg	Gly	Ala	Trp	Ile	Gln	Ala	Val	Asn	Gly	Gln	Phe
								35	40			45			
Arg	Gly	Ile	Pro	Thr	Glu	Lys	Leu	Lys	Gln	Thr	Leu	Ile	Asp	Gln	Leu
								50	55			60			
Asn	Ser	Leu	Gln	Gly	Ala	Gly	Ile	Asn	Ala	Ile	Ile	Phe	Gln	Val	Arg
								65	70			75		80	
Pro	Glu	Ala	Asp	Ala	Leu	Tyr	Ala	Ser	Gln	Leu	Glu	Pro	Trp	Ser	Arg
								85	90			95			
Phe	Leu	Thr	Gly	Val	Gln	Gly	Gln	Ala	Pro	Ser	Pro	Tyr	Trp	Asp	Pro
								100	105			110			
Met	Gln	Phe	Met	Ile	Asp	Glu	Cys	His	Lys	Arg	Gly	Met	Glu	Phe	His
								115	120			125			
Ala	Trp	Ile	Asn	Pro	Tyr	Arg	Val	Lys	Thr	Ser	Leu	Lys	Ser	Glu	Leu
								130	135			140			
Ser	Ala	Asn	His	Leu	Tyr	Asn	Ile	His	Pro	Glu	Trp	Phe	Val	Thr	Tyr
								145	150			155		160	
Asn	Asn	Gln	Leu	Phe	Phe	Asp	Pro	Ala	Leu	Pro	Glu	Ser	Arg	Arg	His
								165	170			175			
Ile	Cys	Met	Val	Ala	Asp	Ile	Val	Ser	Arg	Tyr	Asp	Val	Asp	Ala	
								180	185			190			
Ile	His	Met	Asp	Asp	Tyr	Phe	Tyr	Pro	Tyr	Pro	Ala	Lys	Gly	Met	Asp
								195	200			205			
Phe	Pro	Asp	Asp	Ala	Ser	Phe	Ala	Arg	Tyr	Gly	Gly	Phe	Thr	Asn	
								210	215			220			
Arg	Ala	Asp	Trp	Arg	Arg	Ser	Asn	Val	Asn	Ile	Leu	Ile	Gln	Lys	Ile
								225	230			235		240	
His	Glu	Thr	Ile	Arg	Gly	Leu	Lys	Pro	Trp	Val	Lys	Phe	Gly	Ile	Ser
								245	250			255			
Pro	Phe	Gly	Ile	Tyr	Arg	Asn	Gly	Lys	Glu	Arg	Ser	Ala	Arg	Lys	Gln
								260	265			270			
Asp	Gln	Arg	Pro	Ala	Glu	Leu									
						275									

<210> 7544

<211> 937

<212> PRT

<213> B.fragilis

<400> 7544

Leu	Thr	Ile	Phe	Ala	Val	Gln	Val	Thr	Lys	Met	Leu	Met	Thr	Asp	Ser
1														15	
Lys	Tyr	Ile	Ser	Ile	Lys	Gly	Ala	Arg	Val	Asn	Asn	Leu	Lys	Asn	Ile
								20	25			30			
Asp	Val	Asn	Ile	Pro	Arg	Asn	Lys	Leu	Val	Val	Ile	Thr	Gly	Leu	Ser
								35	40			45			
Gly	Ser	Gly	Lys	Ser	Ser	Leu	Ala	Phe	Asp	Thr	Leu	Tyr	Ala	Glu	Gly

50	55	60
Gln	Arg Arg Tyr Val	Glu Ser Leu Ser Ser Tyr Ala Arg Gln Phe Leu
65	70	75
Gly	Arg Met Ser Lys Pro Glu Cys Asp	Phe Ile Lys Gly Ile Pro Pro
	85	90
Ala	Ile Ala Ile Glu Gln Lys Val Asn	Ser Arg Asn Pro Arg Ser Thr
	100	105
Val	Gly Thr Ser Thr Glu Ile Tyr Glu Tyr Leu Arg	Leu Leu Tyr Ala
	115	120
Arg	Val Gly Lys Thr Tyr Ser	Pro Val Ser Gly Glu Glu Val Lys Lys
	130	135
His	Ser Ile Glu Asp Ile Val Asn Cys Met	Leu Ser Tyr Pro Glu Gly
	145	150
Thr	Arg Tyr Thr Val Leu Thr Gln Ile Tyr	Leu His Asp Gly Arg Thr
	165	170
Leu	Glu Gln Gln Leu Glu Ile Asp Arg	Lys Gln Gly Phe Asn Arg Leu
	180	185
Glu	Val Asn Gly Glu Met Val Arg	Ile Asp Glu Tyr Ala Ala Gly Lys
	195	200
Glu	Asp Val Val Tyr Leu Leu Val Asp Arg Met	Thr Ala Ala Lys Ser
	210	215
Lys	Asp Ala Ile Ser Arg Leu Thr Asp Ser	Ala Glu Thr Ala Met Tyr
	225	230
Glu	Gly Asp Gly Met Cys Met Leu Arg	Phe Tyr Gln Pro Asp Gly Thr
	245	250
Thr	Arg Leu His Thr Phe Ser Thr	Lys Phe Glu Ala Asp Gly Met Thr
	260	265
Phe	Glu Glu Pro Asn Asp Gln Met	Phe Ser Phe Asn Ser Pro Ile Gly
	275	280
Ala	Cys Pro Val Cys Glu Gly	Phe Lys Val Ile Gly Ile Asp Glu
	290	295
His	Leu Val Val Pro Asn Arg Ser	Leu Ser Val Tyr Asp Gly Ala Ile
	305	310
Val	Cys Trp Arg Gly Glu Lys Met	Gly Glu Trp Arg Glu Glu Leu Ile
	325	330
His	Asn Ala Glu Lys Phe Asn Phe	Pro Ile Phe Thr Pro Tyr Tyr Glu
	340	345
Leu	Thr Asp Glu Gln Arg Arg Val	Leu Trp Glu Gly Asn Gln Tyr Phe
	355	360
His	Gly Ile Asn Asp Phe Phe	Lys Met Leu Glu Glu Asn Gln Tyr Lys
	370	375
Ile	Gln Tyr Arg Val Met	Leu Ala Arg Tyr Arg Gly Lys Thr Leu Cys
	385	390
Pro	Lys Cys His Gly Thr Arg Leu Lys	Pro Glu Ala Gly Tyr Val Arg
	405	410
Val	Gly Gly Lys Asn Ile Ser	Glu Leu Val Asp Leu Pro Ile Thr Glu
	420	425
Leu	Gln Lys Phe Phe Asp Ser	Leu Thr Leu Asn Glu His Asp Gln Ala
	435	440
Val	Ala Arg Arg Ile Leu Thr	Glu Ile Asn Ser Arg Ile Arg Phe Leu
	450	455
Ile	Asp Val Gly Leu Gly	Tyr Leu Thr Leu Asn Arg Leu Ser Asn Ser
	465	470
Leu	Ser Gly Gly Glu Ser Gln Arg	Ile Asn Leu Ala Thr Ser Leu Gly
	485	490
Ser	Ser Leu Val Gly Ser Leu Tyr	Ile Leu Asp Glu Pro Ser Ile Gly
	500	505
Leu	His Ser Arg Asp Thr Asp Arg	Leu Val His Val Leu Arg Gln Leu
	515	520
		525

Gln Gln Leu Gly Asn Thr Val Val Val Val Glu His Asp Glu Glu Ile  
     530               535               540  
 Ile Arg Ala Ala Asp Tyr Ile Ile Asp Ile Gly Pro Asn Ala Gly Arg  
     545               550               555               560  
 Leu Gly Gly Gln Val Val Tyr Glu Gly Asp Met Lys Asp Leu Lys Lys  
     565               570               575  
 Gly Ser Asn Ser Tyr Thr Val Lys Tyr Leu Leu Gly Glu Glu Thr Ile  
     580               585               590  
 Pro Val Pro Glu His Arg Arg Pro Trp Asn Asn Tyr Ile Glu Ile Lys  
     595               600               605  
 Gly Ala Arg Glu Asn Asn Leu Lys Gly Val Asp Ala Arg Phe Pro Leu  
     610               615               620  
 Asn Val Met Thr Val Val Thr Gly Val Ser Gly Ser Gly Lys Ser Thr  
     625               630               635               640  
 Leu Val Arg Asp Ile Phe Tyr Arg Ala Leu Lys Arg Glu Leu Asp Glu  
     645               650               655  
 Cys Ser Glu Arg Pro Gly Glu Phe Val Ser Ile Glu Gly Asp Leu Arg  
     660               665               670  
 Asn Leu Arg Asn Val Glu Phe Val Asp Gln Asn Pro Ile Gly Lys Ser  
     675               680               685  
 Ser Arg Ser Asn Pro Val Thr Tyr Ile Lys Ala Tyr Asp Glu Ile Arg  
     690               695               700  
 Lys Leu Trp Ala Asp Gln Pro Leu Ala Lys Gln Met Gly Tyr Thr Ala  
     705               710               715               720  
 Gly His Phe Ser Phe Asn Asn Glu Gly Gly Arg Cys Glu Glu Cys Lys  
     725               730               735  
 Gly Asp Gly Thr Ile Thr Val Glu Met Gln Phe Met Ala Asp Leu Val  
     740               745               750  
 Leu Glu Cys Glu Ser Cys His Gly Lys Arg Phe Lys Ala Asp Thr Leu  
     755               760               765  
 Glu Val Lys Phe Gln Asp Lys Asn Ile Tyr Asp Val Leu Glu Met Thr  
     770               775               780  
 Val Asn Gln Ala Ile Glu Phe Phe Thr Glu His Gly Gln Lys Lys Val  
     785               790               795               800  
 Val Lys Lys Leu Ile Pro Leu Gln Asp Val Gly Leu Gly Tyr Ile Lys  
     805               810               815  
 Leu Gly Gln Ser Ser Ser Thr Leu Ser Gly Gly Glu Asn Gln Arg Val  
     820               825               830  
 Lys Leu Ala Tyr Tyr Leu Ser Gln Glu Lys Ala Asp Pro Thr Leu Phe  
     835               840               845  
 Ile Phe Asp Glu Pro Thr Thr Gly Leu His Phe His Asp Ile Arg Lys  
     850               855               860  
 Leu Leu Asp Ala Phe Asp Ala Leu Ile Arg Arg Gly His Ser Ile Val  
     865               870               875               880  
 Ile Ile Glu His Asn Met Asp Val Ile Lys Cys Ala Asp Tyr Val Ile  
     885               890               895  
 Asp Leu Gly Pro Glu Gly Gly Asp Lys Gly Gly Asn Ile Val Ala Thr  
     900               905               910  
 Gly Thr Pro Glu Glu Val Ala Ala Cys Ala Ala Ser Tyr Thr Gly Gln  
     915               920               925  
 Phe Leu Gln Glu Lys Leu Asn His Leu  
     930               935

&lt;210&gt; 7545

&lt;211&gt; 256

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7545

Glu Arg Gly Ile Ser Ser Ser Pro Val Val Lys Thr Pro Ile Met Phe  
 1 5 10 15  
 Val Ser Ile Ala Cys Gly Ala Ile Ser Gly Phe His Ala Thr Gln Ser  
 20 25 30  
 Pro Leu Met Ala Arg Cys Met Thr Ser Glu Arg His Gly Arg Pro Val  
 35 40 45  
 Phe Tyr Gly Ala Met Ile Thr Glu Gly Ile Val Ala Leu Ile Trp Ala  
 50 55 60  
 Ala Ala Ala Thr Tyr Phe Tyr Arg Glu His Gly Met Glu Glu Asn Asn  
 65 70 75 80  
 Ala Ser Val Ile Val Asp Ala Ile Thr Lys Asp Trp Leu Gly Ala Val  
 85 90 95  
 Gly Gly Val Leu Ala Ile Leu Gly Val Ile Ala Ala Pro Ile Thr Ser  
 100 105 110  
 Gly Asp Thr Ala Phe Arg Ser Ala Arg Leu Ile Val Ala Asp Phe Leu  
 115 120 125  
 Lys Leu Glu Gln Lys Ser Met Arg Arg Arg Leu Tyr Ile Cys Val Pro  
 130 135 140  
 Met Phe Ile Val Ala Ile Gly Leu Leu Leu Tyr Ser Leu Arg Asp Lys  
 145 150 155 160  
 Asp Gly Phe Asp Met Ile Trp Arg Tyr Phe Ala Trp Ala Asn Gln Thr  
 165 170 175  
 Leu Ser Val Phe Thr Leu Trp Ala Ile Thr Val Tyr Leu Ala Arg Ala  
 180 185 190  
 Arg Lys Trp Tyr Gly Leu Thr Leu Val Pro Ala Leu Phe Met Thr Ala  
 195 200 205  
 Val Cys Ser Thr Tyr Ile Cys Ile Ala Pro Glu Gly Leu Gly Leu Ser  
 210 215 220  
 His Trp Val Ser Tyr Val Thr Gly Gly Leu Cys Thr Leu Ile Gly Ala  
 225 230 235 240  
 Val Trp Phe Ile Val Trp Lys Lys Gly Ile Gly Tyr Ser Tyr Lys Lys  
 245 250 255

&lt;210&gt; 7546

&lt;211&gt; 184

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7546

Asn Ile Met Ile Tyr Leu Gln Leu Phe Tyr Thr Phe Phe Lys Ile Gly  
 1 5 10 15  
 Leu Phe Gly Phe Gly Gly Tyr Ala Met Leu Ser Met Ile Gln Gly  
 20 25 30  
 Glu Val Val Thr Arg Tyr Asp Trp Val Ser Thr Gln Glu Phe Thr Asp  
 35 40 45  
 Ile Val Ala Ile Ser Gln Ser Thr Pro Gly Pro Ile Gly Ile Asn Ala  
 50 55 60  
 Ala Thr Tyr Val Gly Phe Thr Ala Thr Gly Ser Ile Trp Gly Ser Val  
 65 70 75 80  
 Ile Ala Thr Phe Ala Val Val Leu Pro Ser Phe Ile Leu Met Leu Thr  
 85 90 95  
 Ile Ser Lys Phe Phe Leu Lys Tyr Gln Lys His Pro Ala Val Glu Ala  
 100 105 110  
 Val Phe Cys Gly Leu Arg Pro Ala Val Val Gly Leu Leu Ala Ser Ala  
 115 120 125  
 Ala Leu Val Leu Met Asn Val Glu Asn Phe Gly Ser Pro Thr Asp Asp  
 130 135 140  
 Thr Tyr Thr Phe Val Ile Ser Ile Ile Ile Phe Leu Val Ala Phe Ile  
 145 150 155 160

Gly Thr Lys Lys Tyr His Ala Asn Pro Ile Leu Met Ile Ile Ala Cys  
 165 170 175  
 Gly Ile Ala Gly Leu Ile Leu Tyr  
 180

&lt;210&gt; 7547

&lt;211&gt; 426

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7547

Lys Tyr Met Met Lys Asn Lys Leu Ile Leu Leu Phe Ala Leu Gly Leu  
 1 5 10 15  
 Cys Ala Gln Val Gln Ala Gln Val Pro His Leu Ser Arg Glu Thr Tyr  
 20 25 30  
 Arg Glu Arg Val Glu Ala Tyr Ser Gln Val Leu Lys Gln Gln His Leu  
 35 40 45  
 Lys Ser Met Ala Ser Thr Asp Ala Arg Lys Ile Ala Phe Thr Gly Phe  
 50 55 60  
 Leu Pro Lys Val Asp Ile Ser Ala Glu Gly Thr Leu Asn Leu Lys Glu  
 65 70 75 80  
 Met Asp Ser Trp Asp Gly Pro Ala Gly Gln Tyr Arg Asn His Thr Tyr  
 85 90 95  
 Gln Gly Ile Phe Val Val Ser Gln Pro Leu Tyr Thr Gly Gly Ala Leu  
 100 105 110  
 Gln Ala Gln Asn Arg Ile Ala Lys Ala Asp Glu Lys Leu Asp Gln Leu  
 115 120 125  
 Ser Glu Glu Leu Thr Arg Asp Gln Ile His Tyr Gln Ser Asp Ala Phe  
 130 135 140  
 Tyr Trp Asn Ala Ser Ser Ala Arg Ala Met Leu Asn Ala Ser Ala Gln  
 145 150 155 160  
 Tyr Gln Glu Ile Val Glu Lys Gln Tyr Glu Ile Ile Gln Asp Arg Phe  
 165 170 175  
 Lys Asp Gly Ala Ile Ser Arg Thr Asp Leu Leu Met Ile Ser Thr Arg  
 180 185 190  
 Arg Lys Glu Ala Glu Leu Gln Tyr Ile Asn Ala Arg Gln Asn Tyr Thr  
 195 200 205  
 Leu Ala Leu Gln Lys Leu Asn Ile Leu Met Gly Glu Glu Pro Asn Ala  
 210 215 220  
 Pro Val Asp Ser Leu Cys Ala Ile Gly Val Val Cys Pro Pro Val Thr  
 225 230 235 240  
 Leu Leu Pro Leu Asp Asp Val Leu Gln Arg Arg Ala Asp Phe Ala Ser  
 245 250 255  
 Thr Glu Val Asn Ile Gln Lys Ser Glu Ala Gln Arg Lys Ala Ala Leu  
 260 265 270  
 Ser Gln Tyr Asn Pro Gln Val Ser Met Tyr Val Thr Gly Gly Trp Ala  
 275 280 285  
 Thr Ala Ser Pro Asn Met Gly Tyr Asp Val Lys Phe Thr Pro Ile Val  
 290 295 300  
 Gly Met Ser Val Asn Ile Pro Val Leu Arg Trp Gly Ala Arg Phe Lys  
 305 310 315 320  
 Thr Asn Arg Gln Gln Lys Ala Tyr Thr Gly Ile Gln Lys Leu Gln Gln  
 325 330 335  
 Ser Tyr Val Val Asp Gln Ile Asn Gln Glu Leu Ala Ala Leu Thr  
 340 345 350  
 Lys Leu Lys Glu Thr Glu Glu Gln Val Lys Thr Ala Glu Glu Asn Lys  
 355 360 365  
 Glu Leu Ala Glu Glu Asn Leu Asp Leu Ile Thr Phe Ser Tyr Asn Glu  
 370 375 380

Gly Lys Ala Ser Met Val Asp Val Leu Ser Ala Gln Leu Ser Trp Thr  
 385 390 395 400  
 Gln Ala His Thr Ser Leu Ile Asn Ala Tyr Leu Ala Glu Lys Met Ala  
 405 410 415  
 Val Ala Glu Tyr Arg Lys Val Ile Ser Glu  
 420 425

<210> 7548

<211> 89

<212> PRT

<213> B.fragilis

<400> 7548

Ile Thr Leu Val Leu Ser Asn Glu Tyr Leu Ala Lys Phe Met Ile Val  
 1 5 10 15  
 Tyr Gly Phe Glu Cys Thr Thr Asp Tyr Thr Asp Phe His Arg Leu Met  
 20 25 30  
 Ile Tyr Ile Ile Asp Asn Lys Ile Lys Lys Ser Val Leu Ile Arg Val  
 35 40 45  
 Ile Cys Gly Glu Ile Asn Tyr Cys Val Glu Arg Ala Leu Leu Phe Gln  
 50 55 60  
 Phe Leu Tyr Arg Phe Thr Phe Tyr Gln Leu Cys His Thr Gly Cys His  
 65 70 75 80  
 His Ser Leu Ala Cys Phe Gln Ser Phe  
 85

<210> 7549

<211> 254

<212> PRT

<213> B.fragilis

<400> 7549

Ser Ser Val Leu Val Arg Leu Val Ser Thr Val Thr Glu Lys Asn Asp  
 1 5 10 15  
 Pro Leu Gly Ser Lys Thr Asn Gly Leu Gln Asn Tyr Asp Asp Leu Tyr  
 20 25 30  
 Ala Asp Val Leu Leu Trp Ala Arg Asn Gly Trp Val Asp Tyr Asn Ile  
 35 40 45  
 Pro Gln Ile Tyr Trp Gln Ile Gly His Pro Ala Ala Asp Tyr Glu Thr  
 50 55 60  
 Leu Val Lys Trp Trp Ala Lys Asn Thr Glu Asn Arg Pro Leu Phe Ile  
 65 70 75 80  
 Gly Gln Ser Val Met Asn Thr Ile Gln Asn Ala Asp Pro Lys Asn Pro  
 85 90 95  
 Ser Met Asn Gln Leu Pro Arg Lys Met Ala Leu Glu Arg Ala Tyr Gln  
 100 105 110  
 Thr Ile Gly Gly Ser Cys Gln Trp Pro Ala Ser Ala Val Val Glu Asn  
 115 120 125  
 Ala Gly Lys Tyr Arg Asp Ala Leu Val Gln Glu Tyr His Lys Tyr Pro  
 130 135 140  
 Ala Leu Val Pro Val Phe Asp Phe Met Asp Asp Lys Ala Pro Gly Lys  
 145 150 155 160  
 Val Arg Lys Val Lys Lys Val Trp Thr Glu Asp Gly Tyr Met Leu Phe  
 165 170 175  
 Trp Thr Ala Pro Lys Ala Lys Asp Glu Met Asp Arg Ala Val Gln Tyr  
 180 185 190  
 Val Val Tyr Arg Phe Asp Asp Lys Glu Lys Val Asn Ile Asp Asp Ala  
 195 200 205  
 Ser His Ile Val Ala Val Thr Arg Asn Asn Phe Tyr Lys Leu Pro Tyr

210	215	220
Lys Asp Gly Lys Asn Lys	Tyr Arg Tyr Val Val	Thr Ala Leu Asp Arg
225	230	235
Leu His Asn Glu Ser Lys Ser Val Ser Lys Lys Val Lys Leu		240
245	250	

&lt;210&gt; 7550

&lt;211&gt; 406

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7550

Pro His Arg Ala Ile Gly Val Arg Glu Gly Thr Ser Tyr Ile Ile Phe			
1	5	10	15
Thr Met Lys Ile His Ile Leu Phe Gly Met Ile Gly Phe Ile Leu Leu			
20	25	30	
Ser Gly Cys Asn Arg Ala Ala Glu Lys Asn Pro Arg Phe Tyr Asp Ala			
35	40	45	
Gly Val Ser Arg Glu Leu Ala Gly His Arg Lys Ala Gln Ile Lys Asn			
50	55	60	
Leu Lys Tyr Glu Leu Ser Phe Asn Ile Pro Arg Gln Lys Glu Ala Ala			
65	70	75	80
Ile Glu Gly Asp Ile Thr Leu Arg Phe Asp Leu Ala Ser Arg Gln Glu			
85	90	95	
Val Leu Ile Asp Phe Arg Glu Glu Arg Glu Lys Ile Lys Glu Val Ile			
100	105	110	
Ala Asn Gly Val Pro Val Asp Lys Val Arg Phe Glu Asn Glu His Ile			
115	120	125	
Ile Leu Pro Ala Ser Ser Thr Val Glu Gly Ala Asn Gly Ile Arg Ile			
130	135	140	
Arg Phe Thr Ala Gly Asn Gln Ser Leu Asn Arg Asn Asp Glu Tyr Leu			
145	150	155	160
Tyr Thr Leu Leu Val Pro Asp Arg Ala Arg Thr Val Phe Pro Cys Phe			
165	170	175	
Glu Gln Pro Asn Leu Lys Ala Glu Phe Thr Leu Gln Leu Glu Leu Pro			
180	185	190	
Ala Asp Trp Lys Ala Val Ser Asn Thr Tyr Ile Arg Ser Glu Thr Val			
195	200	205	
Thr Asp Asp Arg Lys Thr Val Cys Phe Ala Pro Thr Glu Pro Leu Ser			
210	215	220	
Thr Tyr Leu Phe Ser Phe Val Ala Gly Lys Leu Glu Arg Arg Glu Tyr			
225	230	235	240
Thr Arg Asp Gly Arg Thr Ile Ala Ala Tyr Tyr Arg Glu Thr Asp Pro			
245	250	255	
Lys Lys Val Ala Gln Leu Asp Ile Val Phe Gly Gln Val Met Ala Ser			
260	265	270	
Leu His Trp Leu Glu Glu Tyr Thr Gly Ile Ala Tyr Pro Phe Ala Lys			
275	280	285	
Tyr Asp Phe Ile Val Leu Pro Gly Phe Gln Phe Gly Gly Met Glu His			
290	295	300	
Thr Gly Ala Thr Leu Tyr Asn Asp Asn Gly Ile Ile Leu Ser Glu His			
305	310	315	320
Pro Thr Pro Asp Glu Glu Leu Asn Arg Ala Glu Leu Ile Ala His Glu			
325	330	335	
Thr Ser His Met Trp Val Gly Asp Ser Gly Thr Met Asp Trp Phe Asp			
340	345	350	
Asp Gly Trp Thr Lys Glu Val Phe Ala Asn Tyr Ile Ala Ala Arg Ile			
355	360	365	
Val Glu Pro Leu Phe Pro Glu Ile Asn His Thr Gln Asn Lys Leu Lys			

370	375	380
Thr Phe Thr Ala Ala Ile Thr Phe Arg Gly Ser Tyr Tyr Gly Asp Glu		
385	390	395
Cys His Pro Ser Thr Ala		400
	405	

<210> 7551

<211> 522

<212> PRT

<213> B.fragilis

<400> 7551

Leu Pro Met Lys Arg Arg Thr Cys Gly Leu Ala Ile Arg Val Pro Trp			
1	5	10	15
Ile Gly Leu Thr Thr Asp Gly Leu Lys Lys Phe Leu Pro Thr Ile Leu			
20	25	30	
Gln Pro Gly Leu Ser Asn Pro Cys Phe Arg Arg Ser Ile Thr Pro Arg			
35	40	45	
Ile Ser Ser Arg Pro Leu Arg Gln Leu Ser Leu Ser Glu Asp Arg Thr			
50	55	60	
Met Gly Thr Asn Ala Ile Arg Gln Pro Leu Asp Asn Leu Arg Asn Ala			
65	70	75	80
Gly Leu Ile Tyr Gly Gln Ile Ile Tyr Asn Lys Ala Pro Val Met Met			
85	90	95	
Glu Lys Leu Val Asp Lys Met Gly Glu Ala Asn Phe Arg Ser Gly Ile			
100	105	110	
Gln Glu Tyr Leu Lys Thr Tyr Ser Tyr Gly Asn Ala Thr Trp Asp Asp			
115	120	125	
Leu Ile Arg Ile Leu Asp Ser Lys Thr Thr Glu Asp Leu Ala Ala Phe			
130	135	140	
Ser Asp Val Trp Val Asn Arg Lys Gly Met Pro Thr Leu Thr Phe Arg			
145	150	155	160
Thr Asp Gly Gln Glu Leu Glu Ile Arg Gln His Asp Pro Tyr Asn Arg			
165	170	175	
Gly Leu Leu Trp Pro Gln Arg Phe Ala Val Thr Leu Cys Gly Glu Arg			
180	185	190	
Asp Ser Val Ile Arg Val Asn Met Thr Asp Thr Leu Phe Arg Met Gln			
195	200	205	
Leu Pro Phe Val Pro Ser Arg Val Leu Pro Asn Thr Asp Gly Arg Gly			
210	215	220	
Tyr Gly Val Phe Val Pro Asp Glu Pro Ala Leu His Trp Leu Ala Ala			
225	230	235	240
His Trp Trp Glu Ile Glu Asp Asp Thr Ala Arg Gln Ser Leu Leu Met			
245	250	255	
Val Leu Tyr Glu Asn Tyr Leu Ala Lys His Ile Ser Ala Asp Asp Trp			
260	265	270	
Val Asn Ser Leu Ile Thr Gly Leu Pro Ala Glu Lys Asn Ala Leu Val			
275	280	285	
Ala Ser Thr Ala Ser Gly Tyr Leu Ala Asn Val Met Trp Glu Ile Ala			
290	295	300	
Pro Ala Asn Arg Ala Glu Val Glu Ala Arg Ile Tyr Thr Met Thr Gln			
305	310	315	320
Asn His Pro Leu Pro Ser Cys Arg Ile Gln Leu Met Arg Leu Phe Met			
325	330	335	
Gln Asn Ala Ile Ser Glu Pro Met Val Lys Lys Leu Tyr Ile Leu Trp			
340	345	350	
Gln Gln Gln Ser Asp Lys His Leu Asn Arg Gln Asp Tyr Thr Thr Leu			
355	360	365	
Ala Tyr Glu Leu Ala Ile Arg Met Pro Leu Glu Ser Glu Gln Ile Leu			

370	375	380
Arg	Thr Gln Arg Ala Arg	Ile Asp Asp Pro Asp Arg Leu Arg Gln Phe
385	390	395
Asp	Phe Ile Ser Arg Ala Ala Val Ser Asp Thr Ala Arg Leu Asp Thr	400
	405	410
Leu	Phe Asn Ser Leu Leu Ala Ala Glu Asn Arg Arg Ile Glu Pro Trp	415
	420	425
Thr	Thr Ala Val Ile Arg Tyr Leu Asn His Pro Leu Arg Glu Asp Gln	430
	435	440
Ser	Val Lys Tyr Ile Arg Pro Gly Leu Glu Val Leu Glu Glu Val Gln	445
	450	455
Arg	Thr Gly Asp Ile Phe Phe Pro Lys Asn Trp Ala Ala Ala Leu Leu	460
465	470	475
Gly	Asn His Leu Ser Ser Ser Ala Tyr Glu Glu Val Val Arg Phe Leu	480
	485	490
Asn	Glu Arg Pro Asp Tyr Ser Pro Leu Leu Lys Asn Lys Ile Leu Gln	495
	500	505
Ala	Ala Tyr Pro Leu Tyr Arg Ala Asn Asn	510
	515	520

&lt;210&gt; 7552

&lt;211&gt; 415

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7552

Ser	Arg Met Lys Glu Phe Val Ile Ser Glu Ala Lys Val Glu Thr Ala	1
	5	10
Val	Leu Val Gly Leu Ile Thr Gln Thr Gln Asp Glu Arg Lys Thr Asn	20
	25	30
Glu	Tyr Leu Asp Glu Leu Ala Phe Leu Ala Glu Thr Ala Gly Ala Glu	35
	40	45
Val	Val Lys Arg Phe Thr Gln Lys Leu Pro Thr Ala Asn Ser Val Thr	50
	55	60
Tyr	Val Gly Lys Gly Lys Leu Glu Glu Ile Lys Glu Tyr Ile Arg Ile	65
	70	75
Glu	Ala Glu Glu Asp Arg Glu Val Gly Met Val Ile Phe Asp Asp Glu	85
	90	95
Leu	Ser Ala Lys Gln Ile Arg Asn Ile Glu Ala Glu Leu Lys Val Lys	100
	105	110
Ile	Leu Asp Arg Thr Ser Leu Ile Leu Asp Ile Phe Ala Met Arg Ala	115
	120	125
Gln	Thr Ala Asn Ala Lys Thr Gln Val Glu Leu Ala Gln Tyr Lys Tyr	130
	135	140
Met	Leu Pro Arg Leu Gln Arg Leu Trp Thr His Leu Glu Arg Gln Gly	145
	150	155
Gly	Gly Ser Gly Ser Gly Lys Gly Ser Val Gly Leu Arg Gly Pro	165
	170	175
Gly	Glu Thr Gln Leu Glu Met Asp Arg Arg Ile Ile Leu Asn Arg Met	180
	185	190
Ser	Leu Leu Lys Glu Arg Leu Ala Glu Ile Asp Lys Gln Lys Ser Thr	195
	200	205
Gln	Arg Lys Asn Arg Gly Arg Met Ile Arg Val Ala Leu Val Gly Tyr	210
	215	220
Thr	Asn Val Gly Lys Ser Thr Met Met Asn Leu Leu Ala Lys Ser Glu	225
	230	235
Val	Phe Ala Glu Asn Lys Leu Phe Ala Thr Leu Asp Thr Thr Val Arg	245
	250	255
Lys	Val Ile Ile Asp Asn Leu Pro Phe Leu Leu Ser Asp Thr Val Gly	

260	265	270
Phe Ile Arg Lys Leu Pro Thr Asp	Leu Val Asp Ser	Phe Lys Ser Thr
275	280	285
Leu Asp Glu Val Arg Glu Ala Asp	Leu Leu Val His Val Val Asp Ile	
290	295	300
Ser His Pro Gly Phe Glu Glu Gln	Ile Glu Val Val Asn Lys Thr Leu	
305	310	315
Ala Asp Ile Gly Gly Gly Lys Pro	Met Ile Leu Ile Phe Asn Lys	320
325	330	335
Ile Asp Ala Tyr Thr Tyr Val Glu	Lys Ala Leu Asp Asp Leu Thr Pro	
340	345	350
Lys Thr Lys Glu Asn Leu Thr	Leu Glu Glu Leu Met Lys Thr Trp Met	
355	360	365
Ala Lys Met Glu Asp Asn Cys	Leu Phe Ile Ser Ala Arg Glu Lys Ile	
370	375	380
Asn Ile Asp Glu Leu Lys Ser Val	Val Val Tyr Gln Arg Val Lys Glu Leu	
385	390	395
His Val Gln Lys Tyr Pro Tyr Asn Asp	Phe Leu Tyr Gln Thr Tyr	400
405	410	415

&lt;210&gt; 7553

&lt;211&gt; 470

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7553

Gln Ile Lys Glu Thr Thr Met	Lys Lys Ile Ile Leu Phe Ser	Thr Leu	
1	5	10	15
Cys Ala Ser Leu Phe Leu Gly	Ser Cys Ser Ser Ser Phe Leu Asp	Gln	
20	25	30	
Glu Pro Pro Leu Tyr Val Asn	Glu Asn Asp Ile Phe Thr Ser Pro	Thr	
35	40	45	
Arg Ile Glu Ala Thr Leu Asn	Gly Leu Tyr Ala Ala Ile Lys Asn	Thr	
50	55	60	
Gly Thr Lys Ser Leu Met	Gly Gly Lys Ser Tyr Leu Val Phe	Asp Asn	
65	70	75	80
Arg Gly Asp Asp Val Ile Asn	Ile Ser Asn Asn Leu Val Thr Leu	Phe	
85	90	95	
Asn Thr Tyr Asn Met Asn Val	Gly Ile Thr Asp Ala Glu Asn Ala	Asp	
100	105	110	
Thr Trp Thr Tyr Ala Tyr Leu	Ala Ile Asn Lys Val Asn Thr	Phe Leu	
115	120	125	
Gln Ser Leu Glu Gly Ala Arg	Glu Val Ala Gly Glu Asn Tyr	Asp Arg	
130	135	140	
Tyr Val Gln Glu Ala Lys	Phe Val Arg Ala Leu Ala Tyr Tyr	Leu	
145	150	155	160
Asn Asn Leu Tyr Pro Thr Pro	Tyr Ser Val Asn Pro Asp Ala	Lys Ser	
165	170	175	
Val Pro Leu Arg Leu Thr Ala	Glu Ala Gly Thr Glu Asn Asn	Met	
180	185	190	
Pro Arg Ser Thr Val Lys Gln	Ile Tyr Glu His Ile Leu Ser	Asp Leu	
195	200	205	
Glu Asn Ile Ser Ala Leu Asp	Thr Glu Val Asn Thr Tyr	Thr Gly Val	
210	215	220	
Thr His Ala Thr Gln Ala Ala	Asn Met Leu Lys Met Arg Val	Tyr	
225	230	235	240
Met Ala Met Asn Glu Trp Asp	Lys Ala Ile Thr Ala Gly Glu	Leu Val	
245	250	255	
Thr Gly Tyr Ser Leu Pro Glu	Asp Val Thr Leu Ile Tyr	Lys Ala Pro	

260	265	270
Tyr Phe Ser Gln Glu Ser Ile Phe	Ser Leu Pro Met Ala Asp Thr Asn	
275	280	285
Ile Pro Asn Thr Gln Gln Ser	Leu Ala Glu Tyr Tyr Asp Gly Lys	
290	295	300
Ile Met Leu Ile Asp Thr Lys Ser	Gly Ile Met Ser Lys Pro Asp Tyr	
305	310	315
Ser Leu Ala Thr Asp Lys Arg Ile	Ile Ala Phe Lys Gly Glu Lys Asp	
325	330	335
Leu Leu Met Lys Phe Thr Asp Ala	Lys Thr Lys Leu Gln Trp Val Pro	
340	345	350
Ile Phe Arg Tyr Ala Glu Thr	Leu Leu Asp Leu Ala Glu Cys Tyr Ala	
355	360	365
Asn Lys Ala Gly Gly Glu Ala	Thr Ala Lys Ser Leu Leu Lys Gln Val	
370	375	380
Arg Gly Arg Ser Val Asp Ala Ala	Thr Asp Pro Leu Asn Ile Asp Asn	
385	390	395
Leu Ser Gly Asp Ala Leu Lys Glu	Ala Ile Tyr Asn Glu Lys Arg Leu	
405	410	415
Glu Phe Ile Gly Glu Gly Ile Arg	Gly Ile Asp Ile Met Arg Arg Gly	
420	425	430
Glu His Phe Ile Lys Val Gly Glu	Asn Glu Thr Ile Asn Val Gly Pro	
435	440	445
Ser Asp Glu Lys Tyr Thr Trp Pro	Ile Pro Gln Val Glu Leu Leu Leu	
450	455	460
Asn Lys Asp Ile Asn Lys		
465	470	

&lt;210&gt; 7554

&lt;211&gt; 468

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7554

Phe Val Val Cys Asn Lys Arg Ser Met	Gly Lys Thr Tyr Arg Arg Leu		
1	5	10	15
Thr Glu Asp Glu Val Leu His	Leu Lys Ser Gln Ser Cys Leu Ala Asp		
20	25	30	
Asp Trp Asn Lys Val Ala Val	Ala Glu Glu Phe Thr Thr Glu Phe Val		
35	40	45	
His His Thr Arg Phe Ser	Gly Glu Val Lys Leu Gly Val Phe His Ser		
50	55	60	
Asp Phe Ile Leu Pro	Gly Ile Lys Lys His Ser Gly Leu Arg His		
65	70	75	80
Val Thr Leu His Asn Val	Thr Val Gly Asp Asn Cys Cys Ile Glu Asn		
85	90	95	
Ile Gln Asn Tyr Ile Ala Asn	Tyr Glu Ile Gly Asn Asn Thr Phe Ile		
100	105	110	
Glu Asn Val Asp Ile Ile	Leu Val Asp Gly Leu Thr Gln Phe Gly Asn		
115	120	125	
Gly Val Glu Thr Ala Val	Leu Asn Glu Thr Gly Arg Glu Val Leu		
130	135	140	
Ile Asn Asp Lys Leu Ser	Ala His Gln Ala Tyr Ile Leu Ala Leu Tyr		
145	150	155	160
Arg His Arg Pro Glu Leu Ile	Ser Arg Met Lys Glu Ile Thr Asp Tyr		
165	170	175	
Tyr Ser Asn Lys His Ala Ser	Ala Val Gly Thr Ile Gly Asn His Val		
180	185	190	
Met Ile Leu Asn Thr Gly Ser	Ile Lys Asn Val Arg Ile Gly Asp Phe		

195	200	205
Cys Arg Ile Cys Gly Thr Cys Arg Leu Tyr Asn Gly Ser Ile Asn Ser		
210	215	220
Asn Glu Ser Ala Pro Val His Ile Gly His Gly Val Ile Cys Asp Asp		
225	230	235
Phe Ile Ile Ser Ser Gly Ser His Val Asp Asp Gly Ala Met Leu Thr		
245	250	255
Arg Cys Phe Val Gly Gln Ala Cys Gln Leu Gly His Asn Tyr Ser Ala		
260	265	270
Ser Asp Ser Leu Phe Phe Ser Asn Cys Gln Gly Glu Asn Gly Glu Ala		
275	280	285
Cys Ala Ile Phe Ala Gly Pro Tyr Thr Val Thr His His Lys Ser Thr		
290	295	300
Leu Leu Ile Ala Gly Met Phe Ser Phe Met Asn Ala Gly Ser Gly Ser		
305	310	315
Asn Gln Ser Asn His Met Tyr Lys Leu Gly Pro Ile His Gln Gly Thr		
325	330	335
Leu Glu Arg Gly Ala Lys Thr Thr Ser Asp Ser Tyr Ile Leu Trp Pro		
340	345	350
Ala Arg Val Gly Ala Phe Ser Leu Val Met Gly Arg His Val Asn His		
355	360	365
Ala Asp Thr Ser Asn Leu Pro Phe Ser Tyr Leu Ile Glu Gln Gln Asn		
370	375	380
Thr Thr Tyr Leu Val Pro Gly Val Asn Leu Arg Ser Val Gly Thr Ile		
385	390	395
Arg Asp Ala Gln Lys Trp Pro Lys Arg Asp Lys Arg Thr Asp Pro Asn		
405	410	415
Arg Leu Asp Tyr Ile Asn Tyr Asn Leu Leu Ser Pro Tyr Thr Ile Gln		
420	425	430
Lys Met Phe Lys Gly Arg Ser Ile Leu Lys Glu Leu Lys Arg Val Ser		
435	440	445
Gly Glu Thr Ser Glu Ile Tyr Ser Tyr Gln Ser Ala Lys Asn Lys Lys		
450	455	460
Leu Leu Val Glu		
465		

&lt;210&gt; 7555

&lt;211&gt; 227

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7555

Arg Gly Cys Arg Ala Arg Leu Arg Lys Ser Thr Leu Ile Arg Val Pro		
1	5	10
Lys Ile Lys Asn Ser Ser Leu Asn Ser Gly Ile Arg Tyr Tyr Glu Ile		
20	25	30
Ala Ile His Lys Phe Leu Gly Asn Ser Ile Ile Lys Arg Leu Glu Gly		
35	40	45
Ile Asn Phe Lys Asp Asn Glu Glu Ile Arg Arg Arg Leu Lys Pro Asp		
50	55	60
Thr Glu Ile Gly Val Gly Glu Trp Val Asp Ile Ala Gly Leu Ile Ala		
65	70	75
Pro Lys Ser Glu Val Glu Lys Leu Ile Asp Gly Ile Glu Ser Gly Glu		
85	90	95
Ile Asn Arg Leu Lys Ser Met Asn Ala Cys Phe Ala Ala Met His Asp		
100	105	110
Asn Tyr Tyr Thr Tyr Glu Trp Thr Trp Ala Tyr His Lys Ile Gln Glu		
115	120	125
Phe Tyr Gly Leu Asn Pro Glu Thr Ile Thr Ala Lys Asp Ile Ile Ala		

130	135	140
Ile Val Arg Ala Trp Arg Glu Ala Val Val Gly		Leu Asp Arg Met Val
145	150	155
Tyr Asp Asp Ala Arg Lys Glu Phe Ser Leu Ser		Met Thr Gly Phe
165	170	175
Gly Ala Asp Gly Ser Arg Asp Glu Met Lys		Leu Asp Phe Gly Gln Val
180	185	190
Arg Gly Asp Phe Glu Ser Asn Pro Phe Val Thr		Ala Val Leu Lys His
195	200	205
Ile Asp Asp Lys Thr Ala Leu Gly Glu Leu Ile		Asn Arg Ile Gly
210	215	220
Gln Leu Ala		
225		

&lt;210&gt; 7556

&lt;211&gt; 982

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7556

Tyr Asn Cys Ser Ser Ala Lys Thr Leu Gln Ile Ser Tyr Ile Gly Met		
1	5	10
Gln Thr Ala Glu Val Ala Ile Ala Pro Val Ile Lys Val Ile Leu Lys		
20	25	30
Thr Asp Ser Lys Ala Leu Asp Glu Val Val Val Ala Tyr Gly Thr		
35	40	45
Gln Ser Ala Arg Thr Val Thr Ala Ser Val Ser Thr Val Arg Ala Asp		
50	55	60
Ala Leu Lys Asp Val Pro Ser Val Ser Phe Asp Gln Met Leu Gln Gly		
65	70	75
Arg Ala Ser Gly Val Ser Ile Thr Thr Pro Ser Ala Gly Val Gly Gln		
85	90	95
Ala Pro Ile Val Arg Val Arg Gly Val Asn Ser Ile Thr Ser Gly Thr		
100	105	110
Ser Pro Leu Tyr Val Val Asp Gly Val Pro Ile Glu Ser Gly Asn Leu		
115	120	125
Ser Tyr Leu Ala Asn Ala Asn Ala Leu Ala Asp Ile Asn Pro Ala Asp		
130	135	140
Ile Val Ser Met Asp Val Leu Lys Asp Ala Ala Ala Ala Leu Tyr		
145	150	155
Gly Ser Arg Ala Ala Asn Gly Val Ile Leu Ile Thr Thr Lys Gln Gly		
165	170	175
Gln Ser Gly Lys Val Lys Val Ser Tyr Asp Gly Phe Val Gly Phe Ser		
180	185	190
Asn Ala Thr Asp Phe Tyr Glu Met Met Asn Ala Gln Glu Tyr Val Asp		
195	200	205
Phe Lys Asn Leu Ala Val Lys Asn Arg Tyr Gly Thr Asp Glu Leu Ser		
210	215	220
Leu Thr Thr Gly Tyr Val Ser Pro Tyr Gly Asn Lys Ala Phe Asn Met		
225	230	235
Met Lys Asp Ala Asn Gly Asn Tyr Val Asp Thr Asp Trp Lys Asp Ala		
245	250	255
Ala Phe Gln Asn Gly Leu Ser Gln Ser His Ser Val Ala Val Ser Gly		
260	265	270
Gly Ser Asp Lys Val Arg Tyr Tyr Leu Ser Gly Asn Tyr Thr Thr Gln		
275	280	285
Glu Gly Ile Val Lys Gly Asp Lys Tyr Asp Arg Leu Gly Val Lys Ala		
290	295	300
Asn Ile Asn Val Gln Ala Thr Asp Trp Leu Lys Val Gly Met Asn Thr		

305	310	315	320
Asn Val Thr Thr Gly Thr Thr Ser Tyr Val Asp Ala Ala Arg Arg Gly			
325	330	335	
Ser Asn Phe Ala Val Gly Gly Phe Pro Arg Leu Ala Leu Ile Asn Ala			
340	345	350	
Pro Asn Leu Pro Met Tyr Asn Glu Asp Gly Thr Pro Tyr Tyr Leu Ala			
355	360	365	
Gln Gly Leu Gly Tyr Gly Gly Asn Thr Val Phe Ser Thr Phe Ser Asn			
370	375	380	
Pro Ala Ala Ile Leu Ser Leu Gly Asn Gly Leu Ser Ser Asp Val Thr			
385	390	395	400
Arg Phe Ile Gly Val Phe Tyr Ala Glu Ala Thr Pro Leu Lys Gly Leu			
405	410	415	
Ser Leu Lys Thr Gln Tyr Gly Val Asp Tyr Ala Arg Ile Glu Glu Gln			
420	425	430	
Arg Phe Trp Ser Pro Leu His Gly Asp Gly Val Asn Ser Lys Gly Leu			
435	440	445	
Ala Asn Ala Tyr Asn Thr Lys Asn Asn Arg Trp Thr Trp Thr Asn Thr			
450	455	460	
Ala Thr Tyr Asn Phe Ser Leu Gly Gln Asn Asn Phe Asn Leu Leu Ala			
465	470	475	480
Gly Thr Glu Ala Ser Glu Arg Asn Asn Ser Arg Trp Thr Ala Gln Arg			
485	490	495	
Lys Asp Leu Gln Asp Asp Lys Phe Val Val Phe Gln Gly Pro Phe Gly			
500	505	510	
Ser Ala Thr Ala Gly Gly Ser Leu Ser Asn Asn Thr Met Val Ser Tyr			
515	520	525	
Phe Gly Arg Ile Asn Tyr Asp Tyr Ala Ser Lys Tyr Ile Val Ser Leu			
530	535	540	
Asn Tyr Arg Arg Asp Gly Tyr Ser Ala Leu Ser Glu Lys Asn Arg Trp			
545	550	555	560
Gly Asn Phe Gly Gly Val Ser Ala Ala Trp Arg Val Ser Glu Glu Gly			
565	570	575	
Phe Phe Lys Pro Leu Arg Asn Val Val Asp Asp Leu Lys Ile Lys Gly			
580	585	590	
Ser Tyr Gly Val Val Gly Asn Thr Asp Ile Tyr Asp Tyr Ala Ser Lys			
595	600	605	
Ser Phe Tyr Ser Ser Tyr Asn Tyr Gly Ile Asn Gly Thr Tyr Gly Leu			
610	615	620	
Ala Gln Ile Ala Asp Pro Asn Leu Lys Trp Glu Ser Ser Glu Lys Tyr			
625	630	635	640
Ser Ile Gly Phe Asn Ala Arg Leu Leu Asp Arg Ile Ser Val Asp Phe			
645	650	655	
Asp Tyr Tyr Tyr Thr Lys Ser Ser Asp Leu Ile Leu Asp Val Pro Gln			
660	665	670	
Ser Pro Ser Lys Gly Ile Pro Gly Asn Ile Ile Thr Thr Asn Ala Gly			
675	680	685	
Lys Met Lys Asn Ser Gly Ile Glu Leu Thr Val Ser Ala Asp Val Ile			
690	695	700	
Arg Asn Ser Gln Phe Thr Trp Glu Thr Ser Phe Asn Ile Thr Thr Asn			
705	710	715	720
Lys Asn Lys Val Ile Ser Leu Ala Asp Gly Val Glu Asn Ile Leu Lys			
725	730	735	
Gly Asp Asn Gly Gly Leu Glu Ile Thr Asn Ile Thr Val Pro Gly Lys			
740	745	750	
Ser Ile Gly Arg Leu Tyr Leu Tyr Pro Thr Ala Gly Val Asp Pro Lys			
755	760	765	
Ser Gly Arg Arg Val Phe Ile Thr Pro Glu Gly Asp Arg Thr Leu Leu			
770	775	780	

Met Phe Glu Lys Gly Gly Trp Phe Tyr Glu Asp Gly Ile Glu Tyr Ala  
 785 790 795 800  
 Gly Glu Phe Glu Pro Val Asp Cys Gly Asn Thr Leu Pro Thr Trp Tyr  
 805 810 815  
 Gly Gly Trp Thr Asn Asn Phe Lys Tyr Lys Gly Phe Asp Leu Ser Leu  
 820 825 830  
 Phe Phe Gln Phe Ser Gly Gly Asn Lys Ile Tyr Asn Gly Thr Lys Ala  
 835 840 845  
 Ser Val Ser Asp Met Arg Tyr Trp Asn Asn Ser Lys Asp Val Tyr Lys  
 850 855 860  
 Lys Tyr Trp Thr Pro Glu Arg Thr His Ala Glu Tyr Pro Met Pro Ile  
 865 870 875 880  
 Tyr Gly Asp Asn Tyr Ser Asn Gly Ser Ala Leu Pro Ile Ser Asp Leu  
 885 890 895  
 Val Glu Arg Gly Asp Tyr Leu Arg Leu Lys Asn Val Ser Leu Gly Tyr  
 900 905 910  
 Thr Phe Asn Thr Lys Asn Trp Ser Lys Ala Val Gly Ile Ser Ala Leu  
 915 920 925  
 Arg Leu Tyr Val Gln Ala Gln Asn Leu Phe Val Ile Thr Gly Tyr Ser  
 930 935 940  
 Gly Met Asp Pro Glu Thr Leu Thr Asn Val Glu Ser Ala Thr Leu Ser  
 945 950 955 960  
 Gly Gly Thr Asp Lys Asn Thr Leu Pro Gln Ala Arg Thr Tyr Thr Ile  
 965 970 975  
 Gly Val Asn Leu Thr Phe  
 980

&lt;210&gt; 7557

&lt;211&gt; 433

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7557

His Tyr Val Ile Lys Leu Arg Asp Met Ala Thr Pro Pro Phe Lys Tyr  
 1 5 10 15  
 Gln Pro Met Phe Glu His Gly Glu Asp Lys Thr Glu Tyr Tyr Leu Leu  
 20 25 30  
 Thr Lys Asp Tyr Val Ser Val Ser Glu Phe Glu Gly Thr Pro Val Leu  
 35 40 45  
 Lys Val Gln Lys Glu Gly Leu Thr Ala Met Ala Asn Thr Ala Phe Arg  
 50 55 60  
 Asp Val Ser Phe Met Leu Arg Arg Ala His Asn Glu Gln Val Ala Lys  
 65 70 75 80  
 Ile Leu Ser Asp Pro Glu Ala Ser Glu Asn Asp Lys Tyr Val Ala Leu  
 85 90 95  
 Thr Phe Leu Arg Asn Ala Glu Val Ala Ala Lys Gly Ile Leu Pro Phe  
 100 105 110  
 Cys Gln Asp Thr Gly Thr Ala Ile Ile His Gly Glu Lys Gly Gln Gln  
 115 120 125  
 Val Trp Thr Gly Tyr Cys Asp Glu Glu Ala Leu Ser Leu Gly Val Tyr  
 130 135 140  
 Lys Thr Tyr Thr Glu Glu Asn Leu Arg Tyr Ser Gln Asn Ala Pro Leu  
 145 150 155 160  
 Asn Met Tyr Asp Glu Val Asn Thr Lys Cys Asn Leu Pro Ala Gln Ile  
 165 170 175  
 Asp Ile Glu Ala Thr Glu Gly Met Glu Tyr Lys Phe Leu Cys Val Thr  
 180 185 190  
 Lys Gly Gly Ser Ala Asn Lys Thr Tyr Leu Tyr Gln Glu Thr Lys  
 195 200 205

Ala	Ile	Leu	Asn	Pro	Gly	Thr	Leu	Val	Pro	Phe	Leu	Val	Glu	Lys	Met
210					215					220					
Lys	Thr	Leu	Gly	Thr	Ala	Ala	Cys	Pro	Pro	Tyr	His	Ile	Ala	Phe	Val
225					230					235					240
Ile	Gly	Gly	Thr	Ser	Ala	Glu	Lys	Asn	Leu	Leu	Thr	Val	Lys	Leu	Ala
					245				250					255	
Ser	Thr	His	Tyr	Tyr	Asp	Glu	Leu	Pro	Thr	Thr	Gly	Asn	Glu	Tyr	Gly
			260					265					270		
Arg	Ala	Phe	Arg	Asp	Val	Glu	Leu	Glu	Lys	Glu	Val	Leu	Ala	Glu	Ala
			275			280						285			
Gln	Lys	Ile	Gly	Leu	Gly	Ala	Gln	Phe	Gly	Gly	Lys	Tyr	Leu	Ala	His
			290		295					300					
Asp	Val	Arg	Ile	Ile	Arg	Leu	Pro	Arg	His	Gly	Ala	Ser	Cys	Pro	Val
305					310				315						320
Gly	Leu	Gly	Val	Ser	Cys	Ser	Ala	Asp	Arg	Asn	Ile	Lys	Cys	Lys	Ile
				325				330					335		
Asn	Lys	Asp	Gly	Ile	Trp	Ile	Glu	Lys	Leu	Asp	Ser	Asn	Pro	Gly	Ser
				340			345					350			
Leu	Ile	Pro	Ala	Lys	Leu	Arg	Ser	Ala	Gly	Glu	Gly	Asp	Val	Val	Lys
				355		360					365				
Ile	Asp	Leu	Asn	Gln	Pro	Met	Ala	Asp	Ile	Leu	Lys	Glu	Leu	Thr	Lys
					370	375				380					
Tyr	Pro	Val	Ala	Thr	Arg	Leu	Ser	Leu	Asn	Gly	Thr	Ile	Ile	Val	Gly
					385	390			395					400	
Arg	Asp	Ile	Ala	His	Ala	Lys	Leu	Lys	Glu	Thr	Phe	Glu	Arg	Gly	Lys
					405				410				415		
Ile	Trp	Pro	Lys	Tyr	Gln	Arg	Pro	Ser	Asp	Tyr	Tyr	Ala	Val	Arg	Arg
			420				425					430			

-210- 7558

<210> 735

<211> 173  
<212> RBT

<212> PR1  
<213> *B. fragilis*

<400> 7558

Lys Met

<210> 7559

<211> 179

<212> PRT

<213> B.*fragilis*

<400> 7559

Lys  
 130                    135                    140

Lys Ser Leu His Ala  
 165 170 175  
 LYS CYS LYS

Lys Cys Lys

-310- 7560

<210> 7560

<211> 188

<212> PRT

<213> B.*fragilis*

<400> 7560

Lys  
130                    135                    140

145	150	155	160
Lys Lys Lys Lys Lys Lys Lys Lys Lys Asn Pro Tyr Met Gln			
165	170		175
Asn Val Asn Asp Leu Ile Gly Cys Leu Leu Asn Thr			
180	185		

&lt;210&gt; 7561

&lt;211&gt; 104

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7561

Ser Asn Asn Met Asp Asn Arg Thr Glu Gln Tyr Ser Leu Arg Glu Leu			
1	5	10	15
Leu Glu Ser Ile Thr Glu Asn Ile Lys Thr Lys Arg Leu Ala Asp Val			
20	25	30	
Phe Arg Phe Ile Ser Phe His Pro Gly Glu Met Tyr Gly Pro His Gln			
35	40	45	
His Leu Arg Ile Glu Ile Asn Tyr Val Lys Lys Gly Ser Cys Ile Leu			
50	55	60	
His Pro Asp His Glu Ser Ile Ser Leu His His Gly Ala Gly Arg Ile			
65	70	75	80
Ser Gly Ala Phe Val Lys Lys Lys Ser Thr Asn Gly Gly Ser Asp			
85	90	95	
Ile Asn Lys Lys Asn Arg Ala Pro			
100			

&lt;210&gt; 7562

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7562

Ser Gly Lys Ser Lys Asp Met Asp Gln Leu Lys Thr Ile Lys Glu Leu			
1	5	10	15
Ile Asn Gln Gly Asp Ile Glu Asn Ala Leu Gln Ala Leu Glu Glu Phe			
20	25	30	
Leu Gln Thr Glu Pro Val Gly Lys Asp Glu Ala Tyr Tyr Leu Met Gly			
35	40	45	
Asn Ala Tyr Arg Lys Leu Gly Asp Trp Gln Lys Ala Leu Asn Asn Tyr			
50	55	60	
Gln Ser Ala Ile Glu Leu Asn Pro Asp Ser Pro Ala Leu Gln Ala Arg			
65	70	75	80
Lys Met Val Met Asp Ile Leu Asn Phe Tyr Asn Lys Asp Met Tyr Asn			
85	90	95	
Gln			

&lt;210&gt; 7563

&lt;211&gt; 281

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7563

Glu Thr Arg Ser Leu Lys Arg Asn Lys Met Glu His Lys Tyr Leu Phe			
1	5	10	15
Val Ala Val Asp Ala Ala Leu Lys Ala Gly Glu Glu Ile Leu Ser Ile			
20	25	30	
Tyr Thr Asp Pro Ala Ser Asp Phe Glu Ile Glu Arg Lys Ala Asp His			

35	40	45
Ser Pro Leu Thr Ile Ala Asp Arg Lys Ala His Val	Thr Ile Ala Thr	
50	55	60
Ile Leu Asp Glu Thr Pro Phe Pro Val Leu Ser	Glu Glu Gly Lys His	
65	70	75
Leu Glu Tyr Asn Thr Arg Arg Asn Trp Asp Val Met	Trp Ile Val Asp	
85	90	95
Pro Leu Asp Gly Thr Lys Glu Phe Ile Lys Arg Asn	Gly Glu Phe Thr	
100	105	110
Val Asn Ile Ala Leu Val Lys Ala Gly Val Pro	Ile Ile Gly Val Ile	
115	120	125
Tyr Leu Pro Val Lys Lys Glu Leu Tyr Phe Ala	Gly Gln Glu Ile Gly	
130	135	140
Ala Tyr Lys Leu Ser Gly Ile Thr Thr Leu Glu Asp	Asp Ala Thr Leu	
145	150	155
Asp Lys Leu Val Ala Ala Ser Val Arg Leu Pro	Gln Asp Leu Gln Arg	
165	170	175
Asp Arg Phe Val Val Val Ala Ser Arg Ser His	Leu Thr Pro Glu Thr	
180	185	190
Glu Ala Tyr Ile Asp Ala Val Lys Gln Lys His	Lys His Val Glu Leu	
195	200	205
Ile Ser Ser Gly Ser Ser Ile Lys Ile Cys Leu	Val Ala Glu Gly Lys	
210	215	220
Ala Asp Val Tyr Pro Arg Phe Ala Pro Thr Met	Glu Trp Asp Thr Ala	
225	230	235
Ala Gly His Ala Ile Ala Arg Ala Ala	Gly Met Glu Ile Tyr Gln Ala	
245	250	255
Asp Lys Lys Asp Val Pro Leu Gln Tyr Asn Lys	Glu Asp Leu Leu Asn	
260	265	270
Pro Trp Phe Ile Val Glu Lys Arg Arg		
275	280	

&lt;210&gt; 7564

&lt;211&gt; 159

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7564

Leu Phe Ser Pro Gln Gly Gly Ser	Ser Pro Leu Ser Ser Pro Gln	
1	5	10
Gln Ser Gly Ser Leu Pro Lys Pro	Glu Glu Val Ile Lys Asp Ala Thr	
20	25	30
Val Lys Lys Ala Leu Glu Glu Ala	Trp Ser Asp Met Leu Lys Arg Ser	
35	40	45
Thr Glu Val Gln Arg Gln Glu Val	Gly Phe Trp Ile Tyr Tyr Asp Pro	
50	55	60
Val Lys Lys Gln Tyr Tyr Ile Gly	Lys Arg Tyr Gly Met Ala Val	
65	70	75
Lys Asn Asp Gly Lys Ala Arg Gly	Asn Ile Ser Leu Gly Asp Lys Ser	
85	90	95
Pro Ser Ile Asn Gly Val Pro Ala	Thr Ala Lys Val Val Ala Ser Phe	
100	105	110
His Thr His Thr Pro Met Thr	Glu Ile Lys Gly Lys Lys Arg Lys Ala	
115	120	125
Gly Pro Ser Lys Glu Asp Lys Glu Asn Ala Asp	Lys Asn Lys Ile Pro	
130	135	140
Ile Asp Ile Leu Val Phe Arg Cys Ile Leu Glu	Ile Val Ile Tyr	
145	150	155

<210> 7565  
<211> 522  
<212> PRT  
<213> B.fragilis

<400> 7565

Leu	Phe	Ala	Phe	Met	Thr	Phe	Glu	Ile	Ala	Phe	Val	Leu	Leu	Ser	Leu
1															15
Leu	Gly	Met	Val	Ile	Ala	Leu	Ile	Leu	Asp	Lys	Met	Arg	Pro	Gly	Met
															30
Ile	Leu	Phe	Ser	Val	Val	Val	Leu	Phe	Leu	Cys	Ala	Gly	Ile	Leu	Thr
															45
Pro	Lys	Glu	Met	Leu	Glu	Gly	Phe	Ser	Asn	Lys	Gly	Met	Ile	Thr	Val
															60
Ala	Leu	Leu	Phe	Leu	Val	Ser	Glu	Gly	Ile	Arg	Gln	Ser	Gly	Ala	Leu
65															80
Gly	Gln	Val	Val	Lys	Lys	Leu	Leu	Pro	Gln	Lys	Arg	Thr	Thr	Val	Phe
															95
Arg	Ala	Gln	Leu	Arg	Leu	Leu	Pro	Ala	Val	Ala	Phe	Ile	Ser	Ala	Phe
															110
Leu	Asn	Asn	Thr	Pro	Val	Val	Val	Ile	Phe	Ala	Pro	Ile	Ile	Lys	Arg
															125
Trp	Ala	Arg	Thr	Val	His	Leu	Pro	Ala	Thr	Lys	Phe	Leu	Ile	Pro	Leu
130															140
Ser	Tyr	Val	Thr	Ile	Leu	Gly	Gly	Ile	Cys	Thr	Leu	Ile	Gly	Thr	Ser
145															160
Thr	Asn	Leu	Val	Val	His	Gly	Met	Ile	Leu	Glu	Ser	Gly	His	Glu	Gly
															175
Phe	Thr	Met	Phe	Glu	Leu	Gly	Lys	Val	Gly	Leu	Phe	Ile	Ala	Ile	Ala
															190
Gly	Ile	Ile	Tyr	Leu	Phe	Ala	Phe	Ser	Lys	Lys	Leu	Leu	Pro	Asp	Ala
195															205
Arg	Pro	Asp	Thr	Ala	Val	Pro	Asp	Glu	Glu	Val	Glu	Glu	Gly	Asp	Lys
210															220
Leu	His	Arg	Val	Glu	Ala	Val	Leu	Gly	Ala	Arg	Phe	Pro	Gly	Ile	Asn
225															240
Lys	Thr	Leu	Gly	Glu	Phe	Asn	Phe	Lys	Arg	His	Tyr	Gly	Ala	Glu	Val
															255
Lys	Glu	Ile	Lys	Lys	Arg	Asn	Gly	Gln	Arg	Phe	Ile	Asn	Asn	Leu	Glu
															270
Glu	Val	Ile	Leu	Arg	Glu	Gly	Asp	Thr	Leu	Val	Val	Met	Ala	Asp	Asp
275															285
Thr	Phe	Ile	Pro	Thr	Trp	Gly	Glu	Ser	Ser	Val	Phe	Val	Leu	Leu	Ala
290															300
Asn	Gly	Asn	Asp	Asn	Glu	Pro	Ile	Pro	Gly	Lys	Gly	Lys	Arg	Trp	Phe
305															320
Ala	Leu	Ile	Leu	Ile	Leu	Met	Ile	Ala	Gly	Ala	Thr	Ile	Gly	Glu	
															335
Leu	Pro	Val	Val	Lys	Glu	Met	Phe	Pro	Asp	Met	Lys	Leu	Asp	Met	Phe
															350
Phe	Phe	Val	Ser	Val	Thr	Thr	Ile	Ile	Met	Ala	Trp	Thr	Lys	Ile	Phe
355															365
Pro	Ala	Arg	Lys	Tyr	Thr	Lys	Tyr	Ile	Ser	Trp	Asp	Ile	Leu	Ile	Thr
370															380
Ile	Ala	Cys	Ala	Phe	Ala	Ile	Ser	Lys	Ala	Met	Val	Asn	Ser	Gly	Val
385															400
Ala	Asp	Lys	Val	Ala	Gly	Phe	Ile	Ile	Gly	Met	Ser	His	Asp	Tyr	Gly
															415
Pro	His	Val	Leu	Leu	Ala	Val	Leu	Phe	Ile	Ile	Thr	Asn	Leu	Phe	Thr

420	425	430
Glu Leu Ile Thr Asn Asn Ala Ala Ala Ala		Phe Pro Leu Ala
435	440	445
Leu Ser Leu Ser Val Gln Leu Gly Val Asp Pro	Thr Pro Phe Phe Val	
450	455	460
Val Ile Cys Met Ala Ala Ser Ala Ser Phe Ser	Thr Pro Ile Gly Tyr	
465	470	475
Gln Thr Asn Leu Ile Val Gln Gly Ile Gly Asn	Tyr Lys Phe Met Asp	
485	490	495
Phe Val Arg Ile Gly Leu Pro Leu Asn Leu Ile	Thr Phe Leu Ile Ser	
500	505	510
Ile Phe Leu Ile Pro Leu Ile Trp Pro Phe		
515	520	

&lt;210&gt; 7566

&lt;211&gt; 166

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7566

Glu Asp Gln Phe Glu Leu Asn Ser Ile Leu Val	Glu Lys Trp Glu Gly		
1	5	10	15
Lys Cys Tyr Arg Leu Val Ile Gln Arg Gln Arg	Arg Asn Ser Gly Asp		
20	25	30	
Leu Asp Leu Trp Glu Gly Glu Tyr Thr Tyr Arg	Cys Ile Leu Thr Asn		
35	40	45	
Asp Tyr Lys Ser Ser Thr Arg Asp Ile Val Glu	Phe Tyr Asn Leu Arg		
50	55	60	
Gly Gly Lys Glu Arg Ile Phe Asp Asp Met Asn	Asn Gly Phe Gly Trp		
65	70	75	80
Ser Arg Leu Pro Lys Ser Phe Met Ala Glu Asn	Thr Val Phe Leu Leu		
85	90	95	
Leu Thr Ala Leu Ile His Asn Phe Tyr Lys Thr	Ile Met Ser Arg Leu		
100	105	110	
Asp Thr Lys Ala Phe Gly Leu Lys Lys Thr Ser	Arg Ile Lys Ala Phe		
115	120	125	
Val Phe Arg Phe Ile Ser Val Pro Ala Lys	Trp Ile Met Thr Ala Arg		
130	135	140	
Gln Tyr Val Leu Asn Ile Tyr Thr Glu Asn Arg	Ala Tyr Ala Lys Pro		
145	150	155	160
Phe Lys Thr Glu Phe Gly			
165			

&lt;210&gt; 7567

&lt;211&gt; 272

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7567

Arg Met Tyr Thr Val Asn Leu Lys Arg Ile Phe	Ile Val Ser Leu Phe		
1	5	10	15
Ile Ala Ile Pro Phe Met Leu Ser Ala Gln Leu	Thr Tyr Gly Thr Thr		
20	25	30	
Gly Leu Leu His Ala Pro Ser Ala Glu Met Gln	Lys Asp Lys Thr Val		
35	40	45	
Met Leu Gly Ala Asn Phe Met Asn Lys Glu Ile	Thr Pro Pro Thr Trp		
50	55	60	
Tyr Tyr His Thr Tyr Asn Tyr Tyr Leu Asn Val	Thr Ile Leu Pro Trp		
65	70	75	80

Met Glu Val Ala Tyr Thr Cys Thr Leu Phe Lys Ala Glu Ala Leu Gly  
       85                         90                         95  
 Leu Lys Pro Tyr Gly Tyr Ser Gly Phe Thr Asn Gln Asp Arg Tyr Phe  
       100                     105                     110  
 Ser Leu Arg Leu Arg Ala Leu Lys Glu Gly Gln Phe Trp Lys Tyr Met  
       115                     120                     125  
 Pro Ala Val Val Val Gly Thr Ser Asp Pro Phe Thr Ser Ser Gly Asn  
       130                     135                     140  
 Gly Val Val Ala Pro Thr Glu Gly Asn Gly Tyr Phe Ser Arg Phe Tyr  
       145                     150                     155                 160  
 Ile Ala Ala Thr Arg His Val Gln Leu Gly Arg Glu Thr Val Gly Val  
       165                     170                     175  
 His Leu Ser Tyr Leu Tyr Asn Lys Arg Ile Glu Tyr Lys Leu Asn Gly  
       180                     185                     190  
 Ile Ala Ala Gly Ile Ser Tyr Asn Pro Ser Phe His Pro Gln Leu Arg  
       195                     200                     205  
 Leu Ile Ala Glu Tyr Asp Ser Lys Asp Phe Ala Leu Gly Ala Thr Tyr  
       210                     215                     220  
 Leu Leu Phe Asn His Leu His Ala Gln Val Glu Leu Gln Arg Met Lys  
       225                     230                     235                 240  
 Tyr Phe Thr Gly Gly Leu Thr Phe Gln Phe Arg Leu Ser Gly Lys Asp  
       245                     250                     255  
 Gly Met Lys Lys Gln Lys Arg Asn Lys Glu Leu Lys Gln Lys Met Lys  
       260                     265                     270

&lt;210&gt; 7568

&lt;211&gt; 391

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7568

Leu Phe Asn Thr Lys Thr Ile Met Asp Ile Glu His Val Arg Ser Arg  
   1                     5                     10                     15  
 Phe Ile Lys His Phe Asp Gly Thr Thr Gly Phe Val Tyr Ala Ser Pro  
   20                     25                     30  
 Gly Arg Ile Asn Leu Ile Gly Glu His Thr Asp Tyr Asn Gly Gly Phe  
   35                     40                     45  
 Val Phe Pro Gly Ala Ile Asp Lys Gly Met Ile Ala Glu Ile Lys Pro  
   50                     55                     60  
 Asn Gly Thr Asp Lys Val Asn Ala Tyr Ser Ile Asp Leu Lys Asp Tyr  
   65                     70                     75                     80  
 Val Thr Phe Gly Leu Asn Glu Glu Asp Ala Pro Arg Ala Ser Trp Ala  
   85                     90                     95  
 Arg Tyr Ile Phe Gly Val Cys Arg Glu Met Ile Lys Arg Gly Val Asp  
   100                    105                     110  
 Val Lys Gly Phe Asn Thr Ala Phe Ser Gly Asp Val Pro Leu Gly Ala  
   115                    120                     125  
 Gly Met Ser Ser Ser Ala Ala Leu Glu Ser Thr Tyr Ala Phe Ala Leu  
   130                    135                     140  
 Asn Asp Leu Phe Gly Glu Asn Lys Ile Asp Lys Phe Glu Leu Ala Lys  
   145                    150                     155                 160  
 Ile Gly Gln Ala Thr Glu His Asn Tyr Cys Gly Val Asn Cys Gly Ile  
   165                    170                     175  
 Met Asp Gln Phe Ala Ser Val Phe Gly Lys Glu Gly Ser Leu Ile Arg  
   180                    185                     190  
 Leu Asp Cys Arg Ser Leu Glu Tyr Gln Tyr Phe Pro Phe Lys Pro Glu  
   195                    200                     205  
 Gly Tyr Arg Leu Val Leu Leu Asp Ser Val Val Lys His Glu Leu Ala  
   210                    215                     220

Ser Ser Ala Tyr Asn Lys Arg Arg Gln Ser Cys Glu Ala Ala Val Ala  
 225 230 235 240  
 Ala Ile Gln Lys Lys His Pro His Val Glu Phe Leu Arg Asp Cys Thr  
 245 250 255  
 Met Asp Met Leu Ala Glu Ala Lys Ala Asp Ile Ser Glu Glu Asp Tyr  
 260 265 270  
 Met Arg Ala Glu Tyr Val Ile Glu Glu Ile Gln Arg Val Leu Asp Val  
 275 280 285  
 Cys Asp Ala Leu Glu Arg Gly Asp Tyr Glu Thr Val Gly Gln Lys Met  
 290 295 300  
 Tyr Glu Thr His His Gly Met Ser Lys Leu Tyr Glu Val Ser Cys Glu  
 305 310 315 320  
 Glu Leu Asp Phe Leu Asn Asp Cys Ala Lys Glu Cys Gly Val Thr Gly  
 325 330 335  
 Ser Arg Val Met Gly Gly Phe Gly Cys Thr Ile Asn Leu Val  
 340 345 350  
 Lys Asp Glu Leu Tyr Asp Asn Phe Ile Glu Lys Ala Lys Glu Ser Phe  
 355 360 365  
 Lys Ala Lys Phe Gly Arg Ser Pro Lys Val Tyr Asp Val Val Ile Ser  
 370 375 380  
 Asp Gly Ser Arg Arg Leu Val  
 385 390

&lt;210&gt; 7569

&lt;211&gt; 376

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7569

Lys Gln Lys Thr Met Lys Ser Lys Leu Val Ile Leu Ser Leu Leu Leu  
 1 5 10 15  
 Ala Gly Ala Thr Ala Ala Thr Ala Gln Thr Lys Glu Thr Phe Tyr Ser  
 20 25 30  
 Glu Ser Phe Lys Asp Asn Ile Phe Val Ser Val Gly Val Gly Ala Gln  
 35 40 45  
 Gly Cys Val Asn Pro Asp Asn Phe Asp Tyr Gly Phe Gly Lys Ala Ile  
 50 55 60  
 Thr Pro Leu Ile Asn Val Ser Val Gly Lys Leu Phe Asn Pro Val Trp  
 65 70 75 80  
 Gly Ile Arg Gly Gln Val Ala Gly Ala Trp Thr Thr Leu Tyr Ser Asn  
 85 90 95  
 Tyr Gly Gln Pro Ala Asp Thr Tyr Ile Lys Ser Lys Asn Lys His Tyr  
 100 105 110  
 Phe Thr Met Arg Ala Asp Gly Met Phe Asn Leu Ser Asn Ala Ile Gly  
 115 120 125  
 Gly Tyr Asn Pro Asp Arg Leu Phe Thr Val Ser Val Phe Ala Gly Pro  
 130 135 140  
 Gly Leu Thr Phe Ala Lys Ala Tyr Gly Asp Gln Asp Lys Val Asn Ala  
 145 150 155 160  
 Leu Ile Asn Gly Ser Val Gly Leu Ala Gly Gln Phe Asn Ile Asn Lys  
 165 170 175  
 Tyr Leu Asp Ile Asn Ile Glu Ala Arg Gly Glu Val Ser Pro Ser Pro  
 180 185 190  
 Phe Gly Asn Ile Ser Ser Ala His Thr Asp Gly Ala Val Ser Leu Thr  
 195 200 205  
 Ala Gly Val Thr Tyr Thr Phe Gly Gly Lys Arg Phe Val Ser Cys Gly  
 210 215 220  
 Ser Gln Val Asp Gln Asn Ala Ile Asn Glu Glu Leu Asn Arg Tyr Arg  
 225 230 235 240

Ser Glu Leu Ala Lys Ala Gln Ser Asp Leu Ala Asp Ala Lys Asn Ala  
 245 250 255  
 Leu Ala Asn Val Lys Pro Val Thr Lys Glu Val Val Lys Glu Ile Glu  
 260 265 270  
 Val Ala Gly Pro Arg Ala Ile Phe Phe Gln Ile Gly Lys Ser Lys Ile  
 275 280 285  
 Asp Asp Tyr Gly Met Val Asn Ile Gln Leu Ala Ala Lys Ile Leu Lys  
 290 295 300  
 Ala Asn Pro Asp Lys Lys Tyr Lys Val Ala Gly Tyr Ala Asp Lys Ala  
 305 310 315 320  
 Thr Gly Ser Ala Lys Trp Asn Gln Lys Leu Ser Glu Ala Arg Ala Gln  
 325 330 335  
 Ala Val Tyr Asp Ala Leu Ile Lys Glu Gly Val Ser Lys Asp Gln Leu  
 340 345 350  
 Glu Leu Val Gly Phe Gly Gly Thr Ala Asn Met Phe Gly Lys Asn Phe  
 355 360 365  
 Leu Asn Arg Val Val Ile Leu Glu  
 370 375

&lt;210&gt; 7570

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7570

Thr Asn Leu Ala Ala Met Lys Ser Asn Trp Lys Pro Lys Tyr Leu Lys  
 1 5 10 15  
 Tyr Val Val Leu Gly Leu Ile Ser Ala Leu Val Val Thr Cys Trp Pro  
 20 25 30  
 Arg Lys Glu Lys Pro Gln Gly His Pro Arg Asp Tyr Ala Glu Ile Lys  
 35 40 45  
 Glu Ser Gly Ile Leu His Ala Ala Thr Glu Tyr Asn Ser Ile Ser Phe  
 50 55 60  
 Tyr Val Asp Gly Asp Thr Val Ser Gly Phe His Tyr Glu Leu Ile Glu  
 65 70 75 80  
 Ala Phe Ala Arg Asp Lys Gly Leu Gln Val Gln Val Ser Pro Val Met  
 85 90 95  
 Ser Phe Asn Gln Arg Leu Glu Gly Leu Ala Asp Gly Thr Tyr Asp Val  
 100 105 110  
 Val Ala Tyr Gly Ile Pro Ala Thr Ser Glu Leu Lys Asp Ser Leu Leu  
 115 120 125  
 Leu Thr Ser Pro Ile Ile Leu Ser Lys Gln Val Leu Val Gln Arg Lys  
 130 135 140  
 Val Gly Glu Asn Asp Ser Leu Ala Ile Arg Ser Gln Leu Asp Leu Ala  
 145 150 155 160  
 Gly Lys Thr Leu Asn Val Val Lys Gly Ser Pro Ser Ile Leu Arg Ile  
 165 170 175  
 Arg Asn Leu Ser Asn Glu Ile Gly Asp Thr Ile Tyr Val Asn Glu Ile  
 180 185 190  
 Glu Lys Tyr Gly Ser Glu Gln Leu Ile Ala Met Val Ala His Gly Asp  
 195 200 205  
 Ile Asp Tyr Ala Val Cys Asp Glu Gly Ile Ala Arg Met Ala Val Asp  
 210 215 220  
 Ser Leu Pro Gln Leu Asp Ile Asn Thr Ala Ile Ser Phe Thr Gln Phe  
 225 230 235 240  
 Tyr Ser Trp Gly Val Ser Lys Gln Ser Pro Ala Leu Leu Asp Ser Leu  
 245 250 255  
 Asn Thr Trp Leu Ser Asp Phe Arg Lys Lys Gly Glu Tyr Gln Ser Val  
 260 265 270

Tyr Arg Lys Tyr Tyr Gly Lys Gln  
275 280

<210> 7571

<211> 90

<212> PRT

<213> B.*fragilis*

<400> 7571

Tyr	Asp	Met	Ala	Lys	Ile	Gln	Ile	Lys	Ser	Glu	Lys	Leu	Thr	Pro	Phe
1				5					10						15
Gly	Gly	Ile	Phe	Ser	Ile	Met	Glu	Lys	Phe	Asp	Ser	Met	Leu	Ser	Pro
						20			25						30
Val	Ile	Asp	Ser	Thr	Leu	Gly	Gln	Arg	Cys	Ser	Ser	Ile	Phe	Gly	Tyr
							35		40						45
Gln	Phe	Ser	Glu	Ile	Val	Arg	Ser	Leu	Met	Ser	Val	Tyr	Phe	Cys	Gly
						50			55						60
Gly	Ser	Cys	Val	Glu	Asp	Val	Thr	Ser	Gln	Leu	Met	Arg	His	Leu	Leu
						65			70						80
Val	Ser	Ser	Tyr	Pro	Ser	Tyr	Met	Gln	Leu						
						85			90						

<210> 7572

<211> 64

<212> PRT

<213> B.*fragilis*

<400> 7572

Lys	Asn	Leu	Phe	Gly	Asn	Phe	Gly	Ser	Asp	Gly	Cys	Cys	Leu	Pro	Val
1					5					10					15
Lys	Lys	Val	Ser	Cys	Glu	Gly	Cys	Leu	Leu	Phe	Cys	Phe	Thr	Thr	Trp
					20					25					30
Val	Asp	Thr	Leu	Phe	Ile	Asp	Asn	Ile	Lys	Thr	Gly	Ser	Gln	Asn	Ile
					35					40					45
Met	Tyr	Leu	Cys	Gly	Met	Thr	Asn	Thr	Leu	Arg	Ser	Asp	Leu	Val	Leu
					50					55					60

<210> 7573

<211> 364

<212> PRT

<213> B.*fragilis*

<400> 7573

Ile	Phe	Asn	Phe	Ile	Glu	Met	Lys	Met	Lys	Ser	Lys	Phe	Phe	Gly	Asn
1				5				10						15	
Gly	Ala	Lys	Leu	Ala	Leu	Ala	Val	Leu	Ala	Val	Cys	Gly	Thr	Leu	Phe
			20					25					30		
Thr	Ser	Cys	Tyr	Glu	Lys	Ala	Glu	Val	Asp	Gln	Ala	Thr	Lys	Pro	Ala
				35				40				45			
Glu	Ala	Lys	Tyr	Tyr	Ile	Ala	Gly	Thr	Ile	Thr	Asp	Ala	Thr	Thr	Gly
					50			55			60				
Gln	Glu	Leu	Thr	Thr	Ala	Lys	Val	Thr	Leu	Gly	Asp	Lys	Ser	Val	Thr
					65			70			75			80	
Ser	Ser	Phe	Asn	Glu	Gln	Val	Asn	Tyr	Lys	Ala	Glu	Gly	Tyr	Ala	Leu
						85				90			95		
Val	Val	Ser	Ala	Asp	Gly	Tyr	Tyr	Pro	Val	Lys	Arg	Gln	Val	Tyr	Leu
						100			105				110		
Asn	Gln	Val	Ser	Asp	Gly	Gln	Thr	Ser	Val	Ala	Thr	Val	Asn	Val	Ala
						115			120				125		

Leu Val Ser Val Glu Ala Ala Val Ile Pro Pro Val Val Pro Pro Thr  
 130 135 140  
 Asp Pro Glu Thr Asp Ile Asn Glu Gly Glu Ala Thr Lys Val Ala Asp  
 145 150 155 160  
 Lys Ala Val Glu Val Ala Lys Pro Ser Glu Ser Thr Val Thr Asp Met  
 165 170 175  
 Leu Ala Gly Thr Thr Ala Thr Pro Glu Glu Lys Lys Ala Leu Asp Glu  
 180 185 190  
 Thr Leu Glu Met Ala Gly Gly Met Lys Val Gly Glu Thr Thr Pro Glu  
 195 200 205  
 Val Leu Ala Asp Gly Ser Ile Leu Ala Ile Thr Pro Val Lys Phe Thr  
 210 215 220  
 Asn Pro Ile Gln Asp Ala Pro Ala Met Val Pro Tyr Phe Tyr Asn Glu  
 225 230 235 240  
 Gly Cys Glu Leu Thr Gly Asp Val Lys Glu Val Ala Ala Pro Val Thr  
 245 250 255  
 Arg Ala Asp Gly Ala Val Ala Ala Asp Ile Gln Lys Ala Phe Leu Ser  
 260 265 270  
 Asn Ala Ala Lys Ala Leu Asn Met Asn Ala Gly Phe Val Gln Lys Ile  
 275 280 285  
 Gly Tyr Thr Arg Ile Ser Val Leu Asn Gly Tyr Ser Ile Leu Gly Tyr  
 290 295 300  
 Thr Ile Lys Gly Gln Leu Val Ser Lys Lys Leu Thr Phe Leu Ile Ser  
 305 310 315 320  
 Gly Lys Tyr Tyr Glu Gly Ile Val Ser Tyr Gln Lys Ser Val Met Ile  
 325 330 335  
 Tyr Pro Asn Tyr Tyr Ser His Asp Ser His Asp Ser His Asp Ser His  
 340 345 350  
 Gly Phe Asn Pro Asn Ala Gly Gly Ser Asn Asp  
 355 360

&lt;210&gt; 7574

&lt;211&gt; 522

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7574

Ile Phe Asn Phe Ile Glu Met Lys Met Lys Ser Lys Leu Phe Gly Asn  
 1 5 10 15  
 Gly Ala Lys Leu Ala Leu Thr Leu Leu Ala Met Cys Gly Met Phe Ala  
 20 25 30  
 Ser Cys Tyr Glu Lys Asp Glu Ile Asp Val Pro Lys Val Thr Asp Pro  
 35 40 45  
 Thr Ala Thr Thr Tyr Gln Val Ala Gly Ile Val Thr Asp Ala Glu Ser  
 50 55 60  
 Asn Ala Val Met Asp Gly Val Thr Val Thr Asn Val Thr Asn Ser Lys  
 65 70 75 80  
 Ser Met Thr Thr Ala Ala Asp Gly Lys Tyr Val Leu Glu Ala Lys Val  
 85 90 95  
 Gly Glu Thr Asn Val Val Thr Phe Ala Lys Ser Gly Tyr Lys Thr Val  
 100 105 110  
 Thr Ser Ser Val Phe Val Thr Lys Gln Glu Asn Gly Ser Ile Val Ala  
 115 120 125  
 Tyr Thr Ile Asp Ala Lys Met Glu Lys Gly Lys Glu Thr Lys Pro Thr  
 130 135 140  
 Lys Asp Val Glu Tyr Gln Ile Glu Gly Ser Val Phe Asp Ala Glu Ser  
 145 150 155 160  
 Gly Glu Pro Val Ala Ile Lys Thr Ala Thr Met Pro Gly Ile Leu Thr  
 165 170 175

Ala Thr Ile Gln Asn Gly Asn Glu Phe Thr Met Ser Asn Val Gly Leu  
     180                     185                     190  
 Gly Gln His Thr Ile Tyr Ile Thr Ala Asp Gly Tyr Lys Pro Ala Thr  
     195                     200                     205  
 Ala Asp Val Val Ile Ser Glu Val Ala Gly Pro Glu Gly Glu Gly Ile  
     210                     215                     220  
 Phe Ile Ala Lys Thr Ser Val Thr Val Ala Met Gln Lys Lys Glu Val  
     225                     230                     235                     240  
 Glu Val Ala Pro Lys Tyr Tyr Leu Ala Gly Asn Ile Tyr Asn Gln Asp  
     245                     250                     255  
 Gly Gly Met Val Thr Lys Ala Glu Val Thr Leu Asn Met Ser Gly Tyr  
     260                     265                     270  
 Glu Val Thr Thr Ala Ser Asn Gly Phe Tyr Lys Phe Glu Ile Pro  
     275                     280                     285  
 Ala Asp Lys Val Lys Gly Leu Thr Lys Ala Thr Val Thr Ile Arg His  
     290                     295                     300  
 Asn Ser Tyr Lys Ile Tyr Val Tyr Thr Ala Phe Ile Ala Pro Val Asp  
     305                     310                     315                     320  
 Asn Gly Gln Val Ser Asn Thr Thr Val Asn Val Thr Leu Ile Leu Lys  
     325                     330                     335  
 Pro Asp Thr Glu Lys Pro Asn Asp Asp Asp Asn Val Phe Ile Gly Gly  
     340                     345                     350  
 Asn Val Glu Ile Glu Val Pro Thr Glu Asn Ala Val Glu Ala Ala Pro  
     355                     360                     365  
 Glu Lys Ala Glu Gly Glu Lys Val Pro Ser Lys Ser Ala Val Glu Glu  
     370                     375                     380  
 Ser Ile Asn Lys Val Leu Glu Ala Ala Gly Ser Asp Ile Lys Ile Thr  
     385                     390                     395                     400  
 Pro Ala Gln Ala Glu Gln Val Val Asn Thr Met Glu Lys Tyr Val Ala  
     405                     410                     415  
 Asn Gly Thr Leu Thr Glu Ile Asp Lys Val Ala Val Leu Pro Ile Glu  
     420                     425                     430  
 Lys Glu Thr Thr Phe Lys Leu Glu Ser Lys Val Ile Asp Thr Asn Asn  
     435                     440                     445  
 Asp Lys Glu Glu Thr Val Ile Asp Glu Ile Val Leu Arg Ala Asn Thr  
     450                     455                     460  
 Ile Ile Ile Phe Thr Ser Gly Val Ala Ser Thr Leu Asn Ile Ser Arg  
     465                     470                     475                     480  
 Thr Asp Glu Val Lys Glu Gly Ala Phe Cys Arg Glu Tyr Asp Gly Thr  
     485                     490                     495  
 Pro Thr Gly Thr Ser Phe Arg Asn Ser Asp Gly Ser Glu Ile Tyr Ser  
     500                     505                     510  
 Cys Cys Cys Arg Ser Ser Arg Arg Asn Ser  
     515                     520

&lt;210&gt; 7575

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7575

Ser Asn Asn Tyr Ser Thr Met Asn Pro Asp Lys Ile Arg Asn Val Leu  
 1              5                     10                     15  
 Asn Ile Leu Phe Met Ile Leu Ala Leu Ala Ala Ile Ile Thr Tyr Phe  
     20                     25                     30  
 Val Ala Lys Asp Asp Phe Lys Val Phe Ile Tyr Val Cys Gly Ala Ala  
     35                     40                     45  
 Ile Phe Val Lys Leu Met Glu Phe Phe Ile Arg Phe Thr Asn Arg  
     50                     55                     60

<210> 7576  
<211> 131  
<212> PRT  
<213> B.*fragilis*

<400> 7576

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Leu Asn Glu Gln Asp Gln Asn Arg Ala Ile Met Phe Thr Asp Asp Lys
1 5 10 15
Ser Ile Glu Asn Ile Gln Gln Leu Phe Ala Glu Phe Lys Lys Phe Leu
20 25 30
Val Leu Gln Lys Glu Tyr Thr Lys Leu Glu Leu Thr Glu Lys Leu Thr
35 40 45
Ile Leu Leu Ser Thr Leu Ile Met Ile Leu Val Leu Thr Ile Leu Gly
50 55 60
Met Val Ala Leu Phe Tyr Leu Leu Phe Ala Leu Ala Tyr Ile Leu Glu
65 70 75 80
Pro Leu Val Gly Gly Leu Met Val Ser Phe Gly Ile Ile Ala Gly Ile
85 90 95
Asn Val Leu Leu Ile Ala Ile Ile Tyr Phe Phe Arg Arg Gln Leu Ile
100 105 110
Ile Ser Pro Met Val Asn Phe Leu Ala Asn Leu Phe Leu Asn Asp Ser
115 120 125
Asn Lys Lys
130

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<210> 7577

<211> 103

<212> PRT

<213> B.fragilis

<400> 7577

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Ile Ser Leu Gln Thr Tyr Phe Ser Thr Thr Pro Ile Lys Asn Glu Ala
1           5           10           15
Met Asn Asn Ser Thr Pro Thr Pro Lys Lys Ile Thr Leu Glu Asp Ile
20          25          30
Ala Gln Arg Lys Gln Glu Val Leu Gln Glu Ile Cys Asp Gln Lys Gln
35          40          45
Ala Met Ala Asp Thr Thr Arg Arg Ile Phe Ala Pro Leu Ala Pro Ala
50          55          60
Ala Ser Gly Gly Asn Ala Leu Met Arg Ser Phe Ser Thr Gly Met Ala
65          70          75          80
Ile Phe Asp Gly Val Met Leu Gly Met Lys Met Ile Arg Lys Val Arg
85          90          95
Gly Leu Phe Arg Lys Arg Tyr
100

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<210> 7578

<211> 83

<212> PRT

<213> B.*fragilis*

<400> 7578

Val	Pro	Glu	Gln	Gln	Lys	Val	Ala	Gln	Asp	Phe	Ala	Met	Ser	Glu	Phe
1									10						15
Ser	Leu	Ile	Leu	Val	Leu	Gln	Lys	Glu	Asn	Lys	Gln	Asn	Ser	Asn	Met
							20		25						30
Thr	Trp	Gln	Lys	Tyr	Lys	Leu	Asn	Leu	Arg	Asn	Ser	His	Leu	Leu	Glu
							35		40						45

Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu  
 50 55 60  
 Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser  
 65 70 75 80  
 Ser Ala Arg

<210> 7579

<211> 305

<212> PRT

<213> B.fragilis

<400> 7579

Lys Lys Thr Lys His Tyr Lys Asn Met Lys His Ile Tyr Leu Leu Leu  
 1 5 10 15  
 Phe Met Leu Ile Pro Met Thr Gly Met Ala Gln Glu Gly Ile Ser Gln  
 20 25 30  
 Asp Thr Thr Leu Tyr Val Asn Gly Arg Lys Ile Leu Ile Lys Glu Asn  
 35 40 45  
 Glu Gly Lys Ile Lys Val Lys Leu Tyr Glu Gln Ser Ser His Gly Asp  
 50 55 60  
 Thr Ile Glu Asn Asp Gln Ile Phe Glu Gly Ile Tyr Thr Asp Gly Gln  
 65 70 75 80  
 Thr Thr Glu Arg Arg Thr Ala Phe Thr Val Pro Phe Val Lys Arg Lys  
 85 90 95  
 Asn His Tyr Arg Phe Asp Pro His Ile Ala Gly Phe Tyr Met Gly Tyr  
 100 105 110  
 Thr Arg Leu Ser Asp Gly Ile Asn Phe Asn Thr Pro Asp Gly Leu Asn  
 115 120 125  
 Ile Asn Ala Asn Lys Ser Trp Glu Ile Gly Phe Asn Leu Phe Gln Gly  
 130 135 140  
 Ser Leu Thr Leu Ser Arg Asp Arg Gln Trp Gly Ile Thr Thr Gly Leu  
 145 150 155 160  
 Gly Trp Gly Tyr Arg Ser Phe Arg Leu Gly Asn Asn Tyr Ala Phe Arg  
 165 170 175  
 Gln Ile Asp Gly Val Thr Gly Ile Val Pro Gly Val Pro Asp Glu Glu  
 180 185 190  
 Val Tyr Thr Lys Ser Arg Leu Arg Tyr Phe Tyr Phe Arg Ile Pro Val  
 195 200 205  
 Ala Leu Glu Trp Gln Lys Arg Phe Ser His Ser Asn Ala His Gly Pro  
 210 215 220  
 Leu Phe Phe Ser Ala Gly Leu Glu Ala Glu Ile Arg His Gly Ala Lys  
 225 230 235 240  
 Ser Lys Ala Lys Val Asn Gly His Lys Lys Asn Leu Asp Ser Gly Leu  
 245 250 255  
 Asn Val His Pro Val Gly Ile Asn Leu Ala Gln Ala Gly Tyr Gly  
 260 265 270  
 Asp Ile Gly Val Tyr Leu Arg Tyr Ser Thr Tyr Ser Leu Phe Glu His  
 275 280 285  
 Lys Lys Gly Pro Glu Leu Tyr Pro Tyr Ser Phe Gly Leu Cys Trp Tyr  
 290 295 300  
 Trp  
 305

<210> 7580  
<211> 460  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7580

Lys Ile Asn Lys Glu Ile Thr Asn Leu Ile Phe Ile Thr Asn Asn Phe  
 1 5 10 15  
 Leu Lys Thr Met Thr Gln Gln Lys Lys Asn Tyr Val Leu Pro Ile Ala  
 20 25 30  
 Met Met Phe Ala Leu Phe Ala Met Ile Ser Phe Val Thr Gly Leu Thr  
 35 40 45  
 Asn Pro Leu Gly Leu Ile Val Lys Glu Gln Phe Gln Ala Ala Asn Trp  
 50 55 60  
 Met Thr Gln Leu Gly Asn Ala Ala Asn Phe Ile Ala Tyr Ala Phe Met  
 65 70 75 80  
 Gly Leu Pro Ala Gly Met Met Leu Lys Arg Ile Gly Tyr Lys Lys Thr  
 85 90 95  
 Ala Leu Thr Ala Val Ala Val Gly Phe Ile Gly Val Gly Ile Gln Val  
 100 105 110  
 Leu Ser Gly Gln Met Asp Tyr Gln Pro Gly Glu Leu Thr Val Phe Trp  
 115 120 125  
 Ile Tyr Leu Thr Gly Ala Phe Val Ser Gly Phe Ser Met Cys Met Leu  
 130 135 140  
 Asn Ala Val Val Asn Pro Leu Leu Asn Thr Leu Ala Gly Gly Gly Lys  
 145 150 155 160  
 Lys Gly Asn Gln Leu Ile Gln Phe Gly Gly Ser Leu Asn Ser Ile Ser  
 165 170 175  
 Ala Thr Ile Val Pro Val Leu Gly Gly Tyr Leu Ile Gly Thr Ile Ser  
 180 185 190  
 Gln Asp Thr Arg Ile Ser Asp Ala Asn Pro Ala Leu Phe Ile Ala Met  
 195 200 205  
 Gly Ile Phe Ala Val Val Phe Ile Val Leu Ala Ile Met Asp Ile Pro  
 210 215 220  
 Glu Pro His Lys Glu Ser Ala Ser Asp His Lys Val Lys Asp Thr His  
 225 230 235 240  
 Ser Pro Leu Ser Phe Arg His Phe Val Leu Gly Thr Val Ala Ile Phe  
 245 250 255  
 Val Tyr Val Gly Val Glu Val Gly Ile Pro Asn Phe Ile Asn Leu Phe  
 260 265 270  
 Leu Thr Thr Ser Pro Asp Ala Ala Gly Ala Lys Gly Phe Gly Met Asp  
 275 280 285  
 Thr Ala Met Ala Gly Ser Ile Val Gly Thr Tyr Trp Phe Leu Met Met  
 290 295 300  
 Ile Gly Arg Leu Cys Gly Gly Ala Leu Gly Ala Lys Phe Ser Ser Lys  
 305 310 315 320  
 Thr Gln Leu Thr Val Val Ser Ser Leu Ala Leu Ile Phe Leu Leu Ile  
 325 330 335  
 Gly Met Phe Ala Pro Ser Ala Thr Thr Val Ala Met Pro Val Phe Lys  
 340 345 350  
 Gly Gly Ala Ser Ile Gly Phe Gly Met Glu Thr Val Pro Val Gly Ile  
 355 360 365  
 Met Phe Phe Ala Leu Cys Gly Leu Cys Thr Ser Ile Met Trp Gly Gly  
 370 375 380  
 Ile Phe Asn Leu Ala Val Glu Gly Leu Gly Lys Tyr Thr Ala Met Ala  
 385 390 395 400  
 Ser Gly Ile Phe Met Val Met Val Cys Gly Gly Gly Ile Leu Pro Leu  
 405 410 415  
 Ile Gln Gly Ala Val Ala Asp Val Thr Ser Ser Tyr Ile Ala Ser Tyr  
 420 425 430  
 Trp Val Ile Phe Ala Ala Val Ala Tyr Met Leu Tyr Tyr Ala Leu Val  
 435 440 445  
 Gly Cys Lys Asn Val Asn Lys Asp Ile Pro Val Glu  
 450 455 460

<210> 7581  
<211> 83  
<212> PRT  
<213> B.fragilis

<400> 7581  
Pro Asp Ser Asn Ile Ile Pro Cys Thr Thr Arg Leu Val Asp Val Pro  
1 5 10 15  
Ile Lys Val Gln Ile Pro Pro Asn Ile Val Thr Tyr Glu Arg Gly Ile  
20 25 30  
Arg Asn Leu Val Ala Gly Lys Trp Thr Val Arg Ala His Arg Leu Ile  
35 40 45  
Ile Gly Ala Lys Met Thr Thr Gly Val Leu Phe Arg Lys Ala Glu  
50 55 60  
Ile Lys Ala Thr Ala Gly Asn Lys Arg Asn Cys Ala Arg Lys Thr Val  
65 70 75 80  
Val Arg Phe

<210> 7582  
<211> 279  
<212> PRT  
<213> B.fragilis

<400> 7582  
Ser Ala Cys Asn Ala Glu Ser Ile Thr Met Leu Phe Val Tyr Ala Lys  
1 5 10 15  
Tyr Ile Lys Ile Met Ser Asn Glu Asn Lys Thr Ile His Asp Phe Glu  
20 25 30  
Leu Asn Leu Ile Cys Asp Phe Phe Ser Asn Met Glu Arg Gln Gly Pro  
35 40 45  
Gly Ser Pro Glu Val Thr Leu Lys Ala Leu Ser Phe Ile Asp Asn Leu  
50 55 60  
Thr Glu Lys Ser Leu Ile Ala Asp Ile Gly Cys Gly Thr Gly Gly Gln  
65 70 75 80  
Thr Met Val Leu Ala Gly His Val Thr Gly Gln Val Thr Gly Leu Asp  
85 90 95  
Phe Leu Ser Gly Phe Ile Asp Ile Phe Asn Arg Asn Ala Arg Gln Ser  
100 105 110  
Gly Leu Gln Asn Arg Val Thr Gly Ile Val Gly Ser Met Asp Asp Leu  
115 120 125  
Pro Phe Arg Asn Glu Glu Leu Asp Leu Ile Trp Ser Glu Gly Ala Ile  
130 135 140  
Tyr Asn Ile Gly Phe Glu Arg Gly Leu Asn Glu Trp Arg Lys Tyr Leu  
145 150 155 160  
Lys Lys Gly Gly Tyr Leu Ala Val Ser Glu Cys Ser Trp Phe Thr Asp  
165 170 175  
Glu Arg Pro Ala Glu Ile Asn Asp Phe Trp Met Asp Ala Tyr Pro Glu  
180 185 190  
Ile Asp Thr Ile Pro Asn Gln Val Ala Lys Ile His Lys Ala Gly Tyr  
195 200 205  
Leu Pro Val Ala Thr Phe Ile Leu Pro Glu Asn Cys Trp Thr Asp His  
210 215 220  
Tyr Phe Thr Pro Lys Val Ala Ala Gln Lys Ile Phe Leu Thr Lys Tyr  
225 230 235 240  
Ala Gly Asn Lys Ile Ala Glu Glu Phe Ser Met Leu Gln Ser Ile Glu  
245 250 255  
Glu Glu Leu Tyr His Lys Tyr Lys Glu Tyr Tyr Gly Tyr Thr Phe Phe

260

265

270

Ile Ala Lys Lys Ile Gly Leu  
275

&lt;210&gt; 7583

&lt;211&gt; 396

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7583

Thr Phe Leu Asn Arg Arg Thr Asp Leu Gln Arg Ile Ile Trp Glu Asn  
1               5               10               15  
Glu Arg Ile Ser Leu Tyr Leu Gln Glu Ile Leu Ile Ile Pro Asp Met  
20               25               30  
Ile Asn Thr Phe Pro Thr Glu Gly Asn Leu Ser Gly Leu Ser Arg Lys  
35               40               45  
Asp Phe Gln Lys Asp Ile Asn Asp Lys Lys Thr Asp Leu Phe Ile Leu  
50               55               60  
Lys Asn Lys Lys Gly Met Glu Val Ala Val Thr Asn Tyr Gly Cys Ala  
65               70               75               80  
Ile Leu Ser Ile Met Val Pro Asp Lys Asp Gly Lys Tyr Ala Asn Val  
85               90               95  
Val Leu Ser Tyr Gly Thr Leu Asp Ala Leu Met His Gly Pro Glu Pro  
100              105              110  
Phe Leu Ser Thr Thr Ile Gly Arg Tyr Gly Asn Arg Ile Ala Lys Gly  
115              120              125  
Lys Phe Thr Leu Tyr Gly Glu Glu His Ser Leu Thr Ile Asn Asn Gly  
130              135              140  
Pro Asn Ser Leu His Gly Gly Pro Thr Gly Phe His Ala Arg Val Trp  
145              150              155              160  
Asp Ala Glu Gln Leu Glu Glu Gly Val Ile Arg Phe Asn Tyr Thr Ser  
165              170              175  
Ala Asp Gly Glu Glu Gly Phe Pro Gly Asn Leu Glu Val Glu Met Thr  
180              185              190  
Tyr Arg Leu Glu Glu Glu Glu Asn Ala Ile Val Ile Glu Tyr Arg Ala  
195              200              205  
Thr Thr Asp Lys Ala Thr Val Val Asn Leu Thr Asn His Gly Phe Phe  
210              215              220  
Asn Leu Ala Gly Thr Ala Asn Pro Thr Pro Thr Val Glu Asn Asn Ile  
225              230              235              240  
Val Thr Ile Asn Ala Asp Phe Tyr Thr Pro Ile Asp Glu Val Ser Ile  
245              250              255  
Pro Thr Gly Glu Ile Ala Lys Val Glu Gly Thr Pro Met Asp Phe Arg  
260              265              270  
Thr Pro His Thr Val Gly Glu Arg Ile Asn Asp Lys Phe Gln Gln Leu  
275              280              285  
Ile Tyr Gly Ala Gly Tyr Asp His Cys Tyr Val Leu Asn Lys Ala Glu  
290              295              300  
Thr Gly Ser Leu Asp Leu Ala Ala Thr Cys Lys Glu Pro Asn Ser Gly  
305              310              315              320  
Arg Thr Met Glu Val Tyr Thr Thr Glu Ala Gly Val Gln Leu Tyr Thr  
325              330              335  
Gly Asn Trp Leu Gly Gly Phe Glu Gly Thr Asn Gly Ala Thr Phe Pro  
340              345              350  
Ala Arg Ser Ala Ile Cys Phe Glu Ala Gln Cys Phe Pro Asp Thr Pro  
355              360              365  
Asn Lys Ala His Phe Pro Ser Ala Thr Leu Leu Pro Gly Asp Glu Tyr  
370              375              380  
Gln Gln Val Thr Ile Tyr Lys Phe Gly Val Glu Lys

385

390

395

&lt;210&gt; 7584

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7584

Met	Glu	Leu	Lys	Gln	Phe	Lys	Ile	Ala	Val	Leu	Pro	Leu	Arg	Asp	Lys
1					5					10					15
Leu	Leu	Ser	Tyr	Ala	Arg	Lys	Leu	Thr	Asp	Asp	His	Ser	Asp	Ala	Glu
			20					25						30	
Asp	Ala	Val	Gln	Glu	Val	Met	Leu	Lys	Leu	Trp	Lys	Leu	Arg	Pro	Lys
			35			35		40					45		
Leu	Asp	Glu	Tyr	His	Ser	Ile	Glu	Ala	Leu	Ala	Met	Thr	Met	Thr	His
			50			55					60				
His	Thr	Cys	Met	Asp	Ile	Leu	Arg	Gly	Lys	His	Pro	Asp	Asn	Leu	Ser
			65			70			75				80		
Leu	Asp	Ser	Val	Gln	Ala	Ala	Ser	Pro	Val	Ala	Thr	Pro	Glu	Arg	Leu
			85					90					95		
Leu	Glu	Glu	Lys	Asp	Glu	Phe	Ser	Leu	Met	Arg	His	Ile	Ile	Ser	Thr
			100					105					110		
Leu	Pro	Pro	Leu	Gln	Gln	Thr	Ile	Leu	Arg	Met	Lys	Asp	Val	Glu	Glu
			115				115	120				125			
Tyr	Glu	Thr	Glu	Glu	Ile	Ala	Glu	Ile	Thr	Gly	Cys	Ser	Ser	Glu	Ala
			130			130	135			140					
Ile	Arg	Ser	Asn	Leu	Ser	Arg	Ala	Arg	Lys	Lys	Val	Arg	Asp	Ile	Tyr
			145			150			155				160		
Leu	Gln	Thr	Ile	Gln	Gln	Arg	Lys	Arg	Arg	Asn	Glu	Ala			
			165				170								

&lt;210&gt; 7585

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7585

Arg	Leu	Ile	Asn	Leu	Pro	Leu	Ile	Val	Tyr	Trp	Met	Ile	Val	Ala	Asp
1					5				10				15		
Phe	Arg	Ile	Glu	Lys	Leu	Leu	Lys	Cys	His	Leu	Ile	Asn	Asn	Asn	Ile
					20			25				30			
Met	Lys	Lys	Leu	Leu	Leu	Ser	Val	Leu	Ser	Ile	Phe	Met	Ile	Ala	
					35			40			45				
Cys	His	Gln	Pro	Asp	Thr	Pro	Pro	Tyr	Ser	Tyr	Ser	Met	Asn	Ile	Asp
					50			55			60				
Met	Gln	Ile	Ile	Ser	Ser	Leu	Glu	Thr	Thr	Tyr	Pro	Leu	Asp	Asn	Leu
					65			70		75			80		
Glu	Thr	Val	Ile	Ile	Asn	Ser	Arg	Leu	Glu	Leu	Ala	Ser	Ser	Ser	Tyr
					85			90				95			
Arg	Ile	Lys	Thr	Leu	Ile	Ser	Ser	Asn	Asp	Leu	Gln	Glu	Ser	Trp	Leu
					100			105				110			
Glu	Arg	Pro	Ile	Val	Met	Leu	Gly	Arg	Glu	Gly	His	Arg	Tyr	Leu	Ser
					115			120			125				
Leu	Pro	Ile	Thr	Phe	Asn	Glu	Glu	Lys	Asp	Arg	Tyr	Asn	Val	Lys	Ile
					130			135			140				
Glu	Phe	Tyr	Cys	Pro	Glu	Ile	Phe	Lys	Asp	Asp	Lys	Tyr	His	Thr	Ile
					145			150			155			160	
Asn	Ile	Val	Tyr	Ser	Ile	Val	Lys	Gly	Lys	Tyr	Leu	Tyr	Asn	Leu	Glu
					165			170				175			

Ser Phe Thr Leu Asp Ser Tyr Ala Gly Glu Ile Glu Asn Gln Gly Glu  
 180 185 190  
 Asn Asn Ala Pro Ile Ile Val Phe Ser Ile Asn Thr Ala Glu Lys Lys  
 195 200 205  
 Glu

<210> 7586

<211> 480

<212> PRT

<213> B.fragilis

<400> 7586

Tyr Lys Ile Asn Arg Glu Ile Pro Ile Val Trp Gly Lys Ser Ile  
 1 5 10 15  
 Arg Gln Arg Glu Tyr Leu Ala Tyr Leu Cys Asn Val Asn Lys Lys Ile  
 20 25 30  
 Lys Lys Pro Ile Asn His Gly Asn Met Lys Lys Ile Val Leu Leu Ser  
 35 40 45  
 Leu Phe Ala Leu Cys Leu Pro Leu Leu Val Met Ala Gln Ser Asn Asn  
 50 55 60  
 Asp Asp Leu Tyr Phe Val Pro Ser Lys Glu Lys Lys Gln Glu Ala Lys  
 65 70 75 80  
 Lys Thr Pro Val Lys Lys Glu Pro Glu Lys Lys Val Val Thr Thr Asn  
 85 90 95  
 Ile Tyr Thr Ser Pro Gly Thr Thr Val Val Val Gln Asp Arg Lys Gly  
 100 105 110  
 Asn Lys Arg Asp Met Arg Asp Val Asp Glu Tyr Asn Arg Arg Tyr Asp  
 115 120 125  
 Val Lys Asp Asn Glu Phe Ala Met Glu Asp Asp Thr Leu Tyr Val Lys  
 130 135 140  
 Glu Lys Ala Val Ser Asp Pro Asp Gly Glu Trp Val Asn Gly Phe Asn  
 145 150 155 160  
 Gly Ser Gln Asp Asp Tyr Glu Tyr Ala Glu Arg Ile Ile Arg Phe Arg  
 165 170 175  
 Asn Pro Arg Phe Ala Val Ser Ile Ser Ser Pro Leu Tyr Trp Asp Ile  
 180 185 190  
 Val Tyr Gly Thr Asn Ser Trp Asp Trp Asn Val Tyr Thr Asp Gly Phe  
 195 200 205  
 Tyr Ala Tyr Ala Phe Pro Thr Phe Thr Asn Arg Leu Trp Trp Asp Trp  
 210 215 220  
 Arg Tyr Asn Ser Tyr Gly Ser Gly Trp Gly Trp Gly Trp Gly Trp Ser  
 225 230 235 240  
 Ser Pro Tyr Tyr Ala Trp Gly Gly Tyr Tyr Pro Gly Tyr Trp Gly Gly  
 245 250 255  
 Tyr Trp Gly Gly Tyr Trp Gly Gly Trp Tyr Gly Gly Tyr Trp Gly  
 260 265 270  
 His His His His Tyr His Pro Gly Trp Gly Gly Gly His Tyr Trp  
 275 280 285  
 Ala Ser His Asn Thr Tyr Thr Asn Arg Arg Ser Tyr Gly Pro Ser Arg  
 290 295 300  
 Val Ser Thr Ser Ser Arg Val Asn Ala Ser Ser Ile Arg Arg Thr Asp  
 305 310 315 320  
 Ser Tyr Thr Arg Ser Gly Asn Asn Ile Ser Pro Ser Arg Gly Gly Asp  
 325 330 335  
 Ser Arg Met Asn Tyr Gly Ser Arg Arg Val Ile Ser Val Arg Asp Thr  
 340 345 350  
 Glu Arg Pro Asp Ala Thr Thr Arg Thr Asp Ala Ser Ser Ser Arg Arg  
 355 360 365

Ser Thr Tyr Thr Arg Pro Ser Ser Thr Arg Ser Ser Ser Ser Tyr Asn  
 370                   375                   380  
 Ser Asn Val His Pro Asn Arg Ser Thr Asn Ser Gly Thr Tyr Ser Arg  
 385                   390                   395                   400  
 Ser Thr Ser Arg Ser Ser Ser Thr Tyr Thr Arg Gly Ser Ser Thr Thr  
 405                   410                   415  
 Thr Pro Ser Arg Ser Tyr Ser Asn Glu Gly Thr Arg Arg Ser Tyr Gly  
 420                   425                   430  
 Ser Ser Ser Ser Arg Ser Tyr Ser Ser Gly Ser Ser Thr Arg Ser  
 435                   440                   445  
 Ser Ser Ser Tyr Ser Ser Gly Ser Arg Ser Ser Gly Ser Ser Ser Arg  
 450                   455                   460  
 Ser Thr Ser Gly Gly Ser Tyr Ser Arg Ser Ser Gly Gly Arg Arg  
 465                   470                   475                   480

&lt;210&gt; 7587

&lt;211&gt; 66

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7587

Asn Tyr Ser Lys Pro Ser Ile Ile Thr Asn His Asn Pro Tyr His Asn  
 1               5               10               15  
 Glu Glu Lys Tyr Tyr Ser Val Ile His Gln Phe Thr Phe Ile Pro Ala  
 20               25               30  
 Met His Lys Gly Thr Ser Thr Arg Ile Leu His Cys Arg Ile Phe Pro  
 35               40               45  
 Ala Gly Arg Leu Arg Thr Arg Arg Leu Phe His Glu Ser Cys Met Ala  
 50               55               60  
 Phe Leu  
 65

&lt;210&gt; 7588

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7588

Ile Met Ala Lys Ile Lys Gly Ala Ile Val Val Asp Thr Glu Arg Cys  
 1               5               10               15  
 Lys Gly Cys Asn Leu Cys Val Val Ala Cys Pro Leu Asn Val Ile Ser  
 20               25               30  
 Leu Ala Lys Glu Val Asn Val Lys Gly Tyr Asn Tyr Ala Gln Gln Ile  
 35               40               45  
 Leu Glu Asp Thr Cys Asn Gly Cys Ser Ser Cys Ala Thr Val Cys Pro  
 50               55               60  
 Asp Gly Cys Ile Ser Val Tyr Lys Val Lys Val Glu  
 65               70               75

&lt;210&gt; 7589

&lt;211&gt; 149

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7589

His Ile Lys Lys Asp Met Lys Lys Ile Gly Ile Cys Cys Asp His Ala  
 1               5               10               15  
 Gly Phe Glu Leu Lys Glu Tyr Val Arg Gly Trp Leu Glu Ala Lys Gly  
 20               25               30

Trp Glu Tyr Lys Asp Phe Gly Thr Tyr Ser Thr Asp Ser Cys Asp Tyr  
 35 40 45  
 Pro Asp Phe Ala His Pro Leu Ala Leu Ala Val Glu Ala Ser Glu Cys  
 50 55 60  
 Tyr Pro Gly Ile Ala Ile Cys Gly Ser Gly Asn Gly Ile Ser Met Thr  
 65 70 75 80  
 Leu Asn Lys His Gln Gly Ile Arg Ala Ala Leu Cys Trp Thr Ala Glu  
 85 90 95  
 Ile Ala His Met Ala Arg Leu His Asn Asp Ala Asn Val Leu Val Met  
 100 105 110  
 Pro Gly Arg Tyr Ile Ser Thr Glu Glu Ala Asp Met Ile Met Thr Glu  
 115 120 125  
 Phe Phe Ser Thr Glu Phe Glu Gly Arg His Gln Lys Arg Ile Asp  
 130 135 140  
 Lys Ile Pro Val Lys  
 145

&lt;210&gt; 7590

&lt;211&gt; 166

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7590

Ile Met Lys Lys Leu Val Val Leu Gly Met Gly Val Cys Val Ala Leu  
 1 5 10 15  
 Ala Phe Ala Ser Cys Lys Ser Ser Glu Ser Ala Tyr Lys Ala Tyr  
 20 25 30  
 Glu Lys Ala Lys Gln Gln Glu Leu Ala Glu Pro Gln Val Glu Ala Pro  
 35 40 45  
 Val Glu Val Thr Pro Val Val Ala Ala Pro Val Glu Thr Lys Lys Ala  
 50 55 60  
 Val Asp Asn Ala Ala Gly Val Arg Gln Glu Lys Val Thr Val Val Ser  
 65 70 75 80  
 Gly Ala Asp Gly Leu Lys Asp Tyr Ser Val Val Cys Gly Ser Phe Gly  
 85 90 95  
 Leu Lys Ala Asn Ala Glu Gly Leu Lys Asp Phe Leu Asp Lys Glu Gly  
 100 105 110  
 Tyr Asn Ala Thr Ile Ala Phe Asn Ala Glu Thr Ala Met Tyr Arg Val  
 115 120 125  
 Ile Val Asn Thr Phe Ala Asp Arg Ala Ser Ala Ala Gln Ala Arg Asp  
 130 135 140  
 Ala Phe Lys Ala Lys Tyr Pro Ser Arg Lys Asp Phe Gln Gly Ala Trp  
 145 150 155 160  
 Leu Leu Tyr Arg Ile Tyr  
 165

&lt;210&gt; 7591

&lt;211&gt; 528

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7591

Asp Met Lys Lys Ile Ile Ile Val Ser Ala Leu Val Leu Leu Trp Thr  
 1 5 10 15  
 Ala Gly Ala Asn Ala Gln Thr Ala Tyr Asp Ala Ala Lys Leu Val Ser  
 20 25 30  
 Lys Asp Leu Asn Gly Thr Ala Arg Phe Val Gly Met Gly Gly Ala Met  
 35 40 45  
 Gly Ala Leu Gly Gly Asp Ile Ser Thr Met Gly Thr Asn Pro Ala Gly

50	55	60													
Ile	Gly	Ile	Tyr	Arg	Ser	Asn	Asp	Val	Met	Thr	Ser	Phe	Ser	Phe	Ser
65					70				75					80	
Thr	Tyr	Gly	Thr	Glu	Ser	Lys	Tyr	Gly	Gly	Lys	Thr	Phe	Asp	Asn	Asn
						85			90					95	
Asn	Asn	Arg	Trp	Ser	Tyr	Asp	Asn	Ile	Gly	Ile	Val	Phe	Ala	Ser	Lys
						100			105					110	
Ile	Gly	Asn	His	Thr	Pro	Leu	Arg	Tyr	Val	Asn	Phe	Gly	Phe	Asn	Tyr
						115			120					125	
His	Arg	Ala	Lys	Ser	Phe	Tyr	Lys	Asn	Met	Phe	Met	Glu	Gly	Ala	Leu
						130			135					140	
Asn	Tyr	Ser	Gln	Ile	Asp	Tyr	Met	Thr	Gly	Gln	Ala	Asn	Gly	Met	Leu
						145			150					160	
Ala	Asn	Gly	Val	Ser	Leu	Lys	Glu	Leu	Ser	Asp	Asn	Lys	Leu	Asn	Pro
						165			170					175	
Tyr	Ser	Asp	Asn	Gly	Val	Gly	Trp	Leu	Gly	Ala	Leu	Gly	Trp	Asp	Gly
						180			185					190	
Leu	Leu	Phe	Asp	Phe	Lys	Asn	Gly	Glu	Tyr	Ile	Gly	Val	Leu	Pro	Gln
						195			200					205	
Thr	Pro	Tyr	Ser	Thr	Phe	Arg	Ser	Arg	Glu	Lys	Gly	Gly	Ile	Asp	Gln
						210			215					220	
Tyr	Asp	Phe	Asn	Ile	Ala	Phe	Asn	Ile	Ser	Asp	Arg	Val	Tyr	Leu	Gly
						225			230					240	
Leu	Thr	Ile	Gly	Ala	Tyr	Asp	Val	Asp	Tyr	Thr	Lys	Ser	Tyr	Tyr	Tyr
						245			250					255	
Ser	Glu	Asp	Tyr	Gly	Asp	Lys	Gln	Asn	Tyr	Asn	Ile	Gly	Ser	Met	Asn
						260			265					270	
Arg	Ile	Ser	Gly	Ser	Gly	Phe	Asp	Phe	Lys	Met	Gly	Ala	Ile	Ile	Arg
						275			280					285	
Pro	Phe	Glu	Asp	Ser	Pro	Phe	Arg	Ile	Gly	Leu	Ala	Val	His	Thr	Pro
						290			295					300	
Thr	Phe	Tyr	Arg	Leu	Thr	Tyr	Thr	Thr	Ser	Ala	Tyr	Leu	Glu	Ser	Asn
						305			310					320	
Ile	Trp	Met	His	Asn	Asn	Asp	Thr	Gly	Lys	Asp	Glu	Leu	Leu	Asn	Ser
						325			330					335	
Tyr	Phe	Asp	Thr	Tyr	Lys	Glu	Leu	Lys	Asp	Met	Asn	Gln	Asn	Arg	Glu
						340			345					350	
Phe	Arg	Leu	Lys	Thr	Pro	Trp	Lys	Tyr	Asn	Val	Ser	Leu	Gly	Tyr	Thr
						355			360					365	
Val	Gly	Gln	Asn	Leu	Ala	Ile	Gly	Ala	Glu	Tyr	Glu	Tyr	Glu	Asp	Tyr
						370			375					380	
Ser	Ser	Val	Lys	Phe	Arg	Tyr	Pro	Glu	Gly	Asp	Lys	Met	Glu	Phe	Glu
						385			390					400	
Thr	Asn	Ala	Ala	Lys	Met	Val	Met	Lys	Gly	Val	Asn	Thr	Phe	Arg	Ile
						405			410					415	
Gly	Ala	Glu	Tyr	Lys	Val	Ile	Pro	Gln	Phe	Ala	Phe	Arg	Leu	Gly	Tyr
						420			425					430	
Asn	Tyr	Ser	Ser	Ser	Ile	Phe	Lys	Asn	Gly	Ala	Ile	Lys	Tyr	Leu	Pro
						435			440					445	
Tyr	Asn	Ser	Val	Asn	Thr	Asp	Thr	Asp	Phe	Ala	Asn	Ser	Lys	Ser	Leu
						450			455					460	
Ser	Asn	Tyr	Thr	Leu	Gly	Ile	Gly	Tyr	Arg	Gly	Thr	Met	Ile	Tyr	Ala
						465			470					480	
Asp	Leu	Ala	Tyr	Lys	Phe	Ser	Ser	Tyr	Lys	Glu	Asp	Phe	Tyr	Pro	Phe
						485			490					495	
Tyr	Asn	Glu	Phe	Asn	Asp	Arg	Gly	Ile	Val	Thr	Pro	Asn	Val	Thr	Lys
						500			505					510	
Ile	Thr	Asn	Thr	Arg	Ser	Gln	Val	Leu	Phe	Thr	Leu	Gly	Met	Arg	Phe
						515			520					525	

<210> 7592  
<211> 375  
<212> PRT  
<213> B.fragilis

<400> 7592

Asn	Asn	Met	Lys	Ser	Lys	Ile	Ala	Ile	Leu	Ser	Leu	Leu	Leu	Thr	Gly
1				5					10					15	
Ala	Ala	Val	Ser	Ala	Ser	Ala	Gln	Thr	Lys	Glu	His	Tyr	Tyr	Ser	Glu
				20					25					30	
Lys	Ala	Lys	Asp	Asn	Ile	Phe	Ile	Ser	Val	Gly	Val	Gly	Ala	Gln	Gly
		35				35		40				45			
Cys	Val	Asn	Pro	Asp	Asn	Phe	Asp	Tyr	Gly	Phe	Gly	His	Ala	Ile	Thr
		50				55				60					
Pro	Leu	Ile	His	Ala	Ser	Val	Gly	Lys	Leu	Phe	Asn	Pro	Ile	Trp	Gly
	65					70			75					80	
Ile	Arg	Gly	Gln	Val	Ala	Gly	Cys	Trp	Ser	Thr	Leu	Tyr	Ser	Glu	Tyr
				85					90					95	
Gly	Met	Pro	Glu	Gly	Glu	Tyr	Lys	Lys	Met	Lys	Asn	Lys	Lys	Tyr	Phe
	100					105			105				110		
Thr	Leu	Arg	Ala	Asp	Gly	Leu	Phe	Asn	Leu	Ser	Asn	Ala	Ile	Gly	Gly
	115					120			120				125		
Tyr	Asn	Pro	Asp	Arg	Leu	Phe	Thr	Val	Ser	Val	Phe	Ala	Gly	Pro	Gly
	130					135					140				
Leu	Thr	Phe	Ala	Lys	Ala	Tyr	Gly	Asn	Gln	Asp	Lys	Leu	Asn	Ala	Leu
	145					150			155					160	
Ile	Asn	Gly	Ser	Val	Gly	Leu	Met	Gly	Gln	Phe	Asn	Ile	Asn	Lys	Tyr
				165				170				175			
Leu	Asp	Ile	Asn	Val	Glu	Ala	Arg	Gly	Glu	Val	Ser	Pro	Ser	Val	Phe
		180				185			185				190		
Gly	His	Tyr	Ser	Ser	Ala	Arg	Thr	Asp	Gly	Ala	Val	Ser	Leu	Thr	Ala
	195					200			200			205			
Gly	Val	Thr	Tyr	Thr	Phe	Gly	Gly	Lys	Arg	Phe	Val	Ser	Cys	Gly	Ala
	210					215			215			220			
Gln	Val	Asp	Gln	Asn	Ala	Ile	Asn	Glu	Glu	Leu	Asn	Arg	Tyr	Arg	Ser
	225					230			235				240		
Glu	Leu	Ser	Lys	Ala	Gln	Ser	Asp	Leu	Ala	Asp	Ala	Lys	Asn	Ala	Leu
		245				250			250			255			
Ala	Asn	Val	Lys	Pro	Val	Thr	Lys	Glu	Val	Val	Lys	Glu	Ile	Glu	Val
		260				265			265			270			
Ala	Gly	Pro	Arg	Ala	Val	Phe	Phe	Gln	Ile	Gly	Lys	Ser	Lys	Ile	Asp
	275					280			280			285			
Asp	Tyr	Gly	Met	Val	Asn	Ile	Gln	Leu	Ala	Ala	Lys	Ile	Leu	Lys	Ala
	290					295			295			300			
Asn	Pro	Asp	Lys	Lys	Tyr	Lys	Ile	Ala	Gly	Tyr	Ala	Asp	Lys	Ala	Thr
	305					310			310			315			320
Gly	Ser	Ala	Lys	Trp	Asn	Gln	Lys	Leu	Ser	Glu	Ala	Arg	Ala	Gln	Ala
						325			330			335			
Val	Tyr	Asp	Ala	Leu	Ile	Lys	Glu	Gly	Val	Ser	Lys	Asp	Gln	Leu	Glu
				340			345		345			350			
Leu	Val	Gly	Phe	Gly	Gly	Thr	Ala	Asn	Met	Phe	Gly	Lys	Asn	Phe	Leu
		355				360			360			365			
Asn	Arg	Val	Val	Ile	Leu	Glu									
	370					375									

&lt;210&gt; 7593

&lt;211&gt; 258

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7593

Glu	Glu	Met	Lys	Gly	Lys	Ile	Val	Phe	Ile	Thr	Gly	Ala	Ser	Ser	Gly
1				5					10						15
Ile	Gly	Glu	Gly	Cys	Ala	Arg	Lys	Phe	Ala	Ser	Gln	Gly	Ser	Asp	Leu
				20					25						30
Ile	Leu	Asn	Ala	Arg	Asn	Val	Ala	Lys	Leu	Glu	Leu	Lys	Val	Glu	
					35				40					45	
Leu	Glu	Ala	Lys	Tyr	Gly	Val	Arg	Ile	Cys	Leu	Leu	Pro	Phe	Asp	Val
				50				55					60		
Arg	Asp	Arg	Asn	Ala	Ala	Thr	Met	Ala	Leu	Ala	Ser	Leu	Pro	Glu	Glu
	65					70				75				80	
Trp	Lys	Arg	Ile	Asp	Val	Leu	Val	Asn	Asn	Ala	Gly	Leu	Val	Ile	Gly
					85				90					95	
Val	Asp	Lys	Glu	Phe	Glu	Gly	Asn	Leu	Asp	Glu	Trp	Asp	Ile	Val	Ile
					100				105				110		
Asp	Thr	Asn	Ile	Lys	Ala	Leu	Leu	Ala	Met	Thr	Arg	Ile	Val	Val	Pro
					115				120				125		
Gly	Met	Val	Glu	Arg	Gly	His	Gly	His	Ile	Ile	Asn	Ile	Gly	Ser	Ile
					130				135				140		
Ala	Gly	Asp	Ala	Ala	Tyr	Pro	Gly	Gly	Ser	Val	Tyr	Cys	Ala	Thr	Lys
	145					150				155				160	
Ala	Ala	Val	Lys	Ala	Leu	Ser	Asp	Gly	Leu	Arg	Ile	Asp	Leu	Val	Asp
					165				170				175		
Thr	Pro	Leu	Arg	Val	Thr	Asn	Ile	Lys	Pro	Gly	Met	Val	Glu	Thr	Asn
					180				185				190		
Phe	Thr	Val	Val	Arg	Tyr	Arg	Gly	Asp	Lys	Asp	Ala	Ala	Asp	Ala	Phe
					195				200				205		
Tyr	Lys	Gly	Ile	Arg	Pro	Leu	Thr	Gly	Asp	Asp	Ile	Ala	Glu	Thr	Val
	210					215						220			
Tyr	Tyr	Ala	Ala	Ser	Ala	Pro	Glu	His	Ile	Gln	Ile	Ala	Glu	Val	Leu
	225					230				235				240	
Val	Met	Pro	Thr	Tyr	Gln	Ala	Thr	Gly	Thr	Ile	Ser	Tyr	Lys	Lys	Lys
					245				250				255		
Asp	Cys														

&lt;210&gt; 7594

&lt;211&gt; 293

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7594

Lys	Asn	Ser	Lys	Pro	Ser	Pro	Ser	Ile	Leu	Ser	Ala	Lys	Trp	Arg	Arg
1				5				10						15	
Glu	Leu	Arg	Ile	Arg	Ser	Cys	Cys	Ile	Ala	Ser	Gly	Arg	Ile	Leu	Ser
					20				25				30		
Leu	Trp	Tyr	Gly	Leu	Ala	Glu	Lys	Ser	Phe	Tyr	Pro	Gly	Lys	Val	Pro
					35				40				45		
Val	Pro	Leu	Met	His	Ile	Asp	Ser	Lys	Trp	Lys	Phe	Lys	Glu	Met	Ile
					50				55				60		
Gln	Phe	Arg	Asp	Glu	Tyr	Ala	Lys	Lys	Tyr	Gly	Trp	Asn	Leu	Ile	Val
	65					70				75				80	
Glu	Ser	Asn	Met	Glu	Ala	Phe	His	Ala	Gly	Val	Gly	Pro	Phe	Thr	His
					85				90				95		
Gly	Ser	Lys	Val	His	Thr	Asp	Leu	Met	Lys	Thr	Gln	Ala	Leu	Leu	Arg
					100				105				110		
Ala	Leu	Asp	Lys	Tyr	Lys	Phe	Asp	Ala	Ala	Phe	Gly	Gly	Ala	Arg	Arg

115	120	125
Asp Glu	Glu Lys Ser Arg Ala	Lys Glu Arg Ile Phe Ser Phe Arg Asp
130	135	140
Lys Phe His Gln Trp Asp	Pro Lys Asn Gln Arg Pro Glu Leu Trp Asp	
145	150	155
Ile Tyr Asn Ala Arg Val His Lys Gly Glu Ser Ile Arg Val Phe Pro		160
165	170	175
Leu Ser Asn Trp Thr Glu Leu Asp Ile Trp Gln Tyr Ile Arg Leu Glu		
180	185	190
Asn Ile Pro Ile Val Pro Leu Tyr Tyr Ala Lys Glu Arg Pro Val Val		
195	200	205
Gln Met Asp Gly Asn Leu Ile Met Ala Asp Asp Glu Arg Leu Pro Glu		
210	215	220
Lys Tyr Arg Asp Gln Ile Glu Met Lys Met Val Arg Phe Arg Thr Leu		
225	230	235
Gly Cys Trp Pro Leu Thr Gly Ala Val Glu Ser Glu Ala Asp Thr Ile		240
245	250	255
Glu Lys Ile Val Glu Glu Met Met Thr Thr Thr Lys Ser Glu Arg Thr		
260	265	270
Thr Arg Val Ile Asp Phe Asp Gln Glu Gly Ser Met Glu Gln Lys Lys		
275	280	285
Arg Glu Gly Tyr Phe		
290		

&lt;210&gt; 7595

&lt;211&gt; 75

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7595

Asn Ile Gly Lys Asp Leu Ile Met Asn Asp Glu Arg Ser Thr Ile Asn		
1	5	10
Asp Arg Asp Arg Leu Thr Ser His Tyr Ile Pro Pro Val Arg Thr Leu		15
20	25	30
Leu Ile Val Asp Arg Ser Ser Phe Phe Tyr Leu Phe His Val Thr Phe		
35	40	45
Ser Phe Leu Leu Arg Leu Ala Tyr Val Asn Gly Thr Lys Thr Ile Gln		
50	55	60
Asn Ser Arg Ser Ser Thr Pro Arg Gln Thr Ala		
65	70	75

&lt;210&gt; 7596

&lt;211&gt; 79

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7596

Asn Ile Asp Glu Glu Ile Ile Lys Met Lys Glu Glu Tyr Lys Leu		
1	5	10
Ser His Leu Lys Glu Leu Glu Ala Glu Ser Ile His Ile Ile Arg Glu		15
20	25	30
Val Ala Ala Gly Val Glu Asn Pro Val Met Leu Tyr Ser Ile Gly Lys		
35	40	45
Asp Ser Phe Val Met Val Arg Pro Cys Arg Lys Lys Leu Leu Ser Gly		
50	55	60
Gln Ser Thr Gly Ser Phe Asp Ala Tyr Arg Phe Lys Val Glu Ile		
65	70	75

&lt;210&gt; 7597

<211> 84  
<212> PRT  
<213> B.fragilis

<400> 7597

Ile	Lys	Phe	Glu	Ile	Val	Asn	Cys	Phe	Ile	Phe	Val	Thr	His	Tyr	Leu
1		5						10						15	
Asn	Ile	Phe	Arg	Ile	His	Glu	Lys	His	Ser	Asn	Thr	Phe	Ser	Ile	Ala
		20						25						30	
Cys	Arg	Leu	Asn	Leu	Asn	Tyr	Asn	Asn	Lys	Glu	Leu	Leu	Pro	Lys	Arg
	35					40							45		
Val	Phe	Arg	Glu	Lys	Thr	Lys	Gly	Gln	Ser	Val	Ala	Lys	Lys	Gln	Ile
	50					55					60				
Val	Tyr	Lys	Thr	Lys	Ser	Asp	Leu	Arg	Val	Phe	Val	Met	Pro	Gln	Arg
	65					70				75			80		
Tyr	Ile	Ile	Phe												

<210> 7598  
<211> 491  
<212> PRT  
<213> B.fragilis

<400> 7598

His	Gly	Thr	Glu	Glu	Thr	Arg	Arg	Ile	Phe	Leu	Asn	Ile	Thr	Thr	Met
1		5						10					15		
Ala	Asp	Lys	Leu	Asp	Ile	Lys	Ala	Phe	Leu	Asp	Lys	Asp	Glu	Gln	Lys
		20						25					30		
Asp	Leu	Leu	Arg	Leu	Leu	Thr	Ala	Gly	Ser	Val	Asp	Asp	Gly	Lys	Ser
	35					40					45				
Thr	Leu	Ile	Gly	Arg	Leu	Leu	Phe	Asp	Ser	Lys	Lys	Leu	Tyr	Glu	Asp
	50					55				60					
Gln	Leu	Asp	Ala	Leu	Glu	Arg	Asp	Ser	Lys	Arg	Leu	Gly	Asn	Ala	Gly
	65				70				75				80		
Glu	His	Ile	Asp	Tyr	Ala	Leu	Leu	Asp	Gly	Leu	Lys	Ala	Glu	Arg	
		85				90					95				
Glu	Gln	Gly	Ile	Thr	Ile	Asp	Val	Ala	Tyr	Arg	Tyr	Phe	Ser	Thr	Asn
		100				105					110				
Asn	Arg	Lys	Phe	Ile	Ile	Ala	Asp	Thr	Pro	Gly	His	Glu	Gln	Tyr	Thr
	115					120				125					
Arg	Asn	Met	Ile	Thr	Gly	Gly	Ser	Thr	Ala	Asn	Leu	Ala	Ile	Ile	Leu
	130					135				140					
Val	Asp	Ala	Arg	Met	Gly	Val	Ile	Thr	Gln	Thr	Arg	Arg	His	Thr	Phe
	145					150				155			160		
Leu	Val	Ser	Leu	Leu	Gly	Ile	Lys	His	Val	Val	Leu	Ala	Val	Asn	Lys
					165				170			175			
Met	Asp	Leu	Val	Asp	Phe	Ser	Glu	Glu	Arg	Phe	Asn	Glu	Ile	Val	Ala
					180			185			190				
Glu	Tyr	Lys	Lys	Phe	Val	Ala	Pro	Leu	Gly	Ile	Pro	Asp	Val	Thr	Cys
	195					200				205					
Ile	Pro	Leu	Ser	Ala	Leu	Asp	Gly	Asp	Asn	Val	Val	Asp	Lys	Ser	Glu
	210					215				220					
Arg	Thr	Pro	Trp	Tyr	Glu	Leu	Ser	Leu	Leu	Asp	Phe	Leu	Glu	Thr	
	225					230				235			240		
Val	His	Ile	Asp	Ser	Asp	Asn	Asn	Phe	Ser	Asp	Phe	Arg	Phe	Pro	Val
						245			250			255			
Gln	Tyr	Val	Leu	Arg	Pro	Asn	Leu	Asp	Phe	Arg	Gly	Phe	Cys	Gly	Lys
						260			265			270			
Val	Ala	Ser	Gly	Ile	Ile	Arg	Lys	Gly	Asp	Lys	Val	Met	Ala	Leu	Pro

275	280	285
Ser	Gly	
Lys	Val	Ser
His	Val	Lys
		Ser
		Ile
		Val
		Thr
		Phe
		Asp
		Gly
290	295	300
Leu	Asp	Tyr
Ala	Phe	Pro
Pro	Gln	Ser
		Val
		Thr
		Leu
		Thr
		Leu
		Glu
305	310	315
		320
Glu	Ile	Asp
Val	Ser	Arg
Gly	Glu	Met
Met	Leu	Val
His	Pro	Asp
Asn	Leu	
	325	330
		335
Pro	Val	Val
Asp	Arg	Asn
Phe	Glu	Ala
Ala	Met	Leu
Met	Val	Trp
		Met
		Asp
		Glu
340	345	350
Glu	Pro	Met
Asp	Ile	Asn
Lys	Ser	Phe
Phe	Ile	Lys
Gln	Thr	Thr
Thr	Asn	Asn
Val	Ser	Arg
Arg	Thr	Arg
Ile	Asp	Ser
Ile	Lys	Tyr
Lys	Val	Asp
Asp	Val	Asn
Thr	Met	Glu
His	Ser	Ser
Val	Pro	Phe
Phe	Leu	Ser
Leu	Asn	Glu
Asn	Ile	Ala
385	390	395
		400
Arg	Val	Val
Phe	Thr	Thr
Ala	Lys	Glu
Glu	Leu	Phe
Phe	Asp	Asp
Asp	Pro	Tyr
		Arg
405	410	415
Lys	Asn	Lys
Ser	Cys	Gly
Gly	Ser	Phe
Phe	Ile	Leu
Leu	Ile	Asp
Asp	Pro	Ile
Ile	Thr	Asn
420	425	430
Asn	Thr	Ser
Ala	Ala	Val
Gly	Met	Ile
Ile	Ile	Asp
Asp	Arg	Val
		Glu
		Lys
		Asp
435	440	445
Met	Asn	Ile
Ile	Ala	Asp
Asp	Asp	Phe
Phe	Pro	Val
Val	Leu	Asn
Asn	Leu	Pro
Leu	Pro	Glu
Glu	Leu	Gly
450	455	460
Ile	Ala	Pro
Pro	Glu	His
His	Tyr	Glu
Glu	Ala	Ile
Ile	Glu	Lys
Lys	Ala	Val
Ala	Val	Lys
465	470	475
		480
Ser	Glu	Gln
Gln	Gly	Phe
Phe	Glu	Val
Val	Arg	Ile
Ile	Glu	Lys
485	490	

&lt;210&gt; 7599

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7599

Tyr	Val	Lys	Asp	Asp	Leu	Phe	Gly	Ala	Val	Phe	Ser	Leu	Pro	Glu	Val
1					5				10						15
Thr	Val	Ile	Gly	Arg	Arg	Pro	Thr	Ser	Ser	Glu	Asn	Pro	Phe	Lys	Trp
						20			25						30
Pro	Phe	Gly	Asp	Met	Pro	Ser	Glu	Ser	Pro	Lys	Ala	Leu	Pro	Gly	Leu
					35			40							45
Asp	Asp	Phe	Phe	Leu	Leu	Lys	Glu	Ala	Val	His	Leu	Arg	Tyr	Leu	His
					50			55							60
His	Ser	Asn	Gln	Ala	Leu	Cys	Leu	Asn	Leu	Lys	Lys	Ser	Leu	Arg	Met
					65			70			75				80
Gln	Leu														

&lt;210&gt; 7600

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7600

Ser	Tyr	Phe	Cys	Asn	Pro	Asn	Met	Ser	Arg	Ile	Val	Ala	Ile	Asp	Tyr
1							5			10					15
Gly	Arg	Lys	Arg	Thr	Gly	Ile	Ala	Val	Ser	Asp	Thr	Met	Gln	Ile	Ile
						20			25						30
Ala	Asn	Gly	Leu	Thr	Thr	Val	Pro	Thr	His	Glu	Leu	Leu	Asp	Phe	Ile
						35			40						45

Thr Asn Tyr Val Lys Gln Glu Ser Val Glu Arg Ile Ile Ile Gly Leu  
 50 55 60  
 Pro Lys Gln Met Asn Asn Glu Val Ser Glu Asn Met Lys Asn Ile Glu  
 65 70 75 80  
 Pro Phe Val Arg Ser Leu Lys Lys Arg Leu Pro Asp Met Pro Val Glu  
 85 90 95  
 Tyr Val Asp Glu Arg Phe Thr Ser Val Leu Ala His Arg Thr Met Leu  
 100 105 110  
 Glu Ala Gly Leu Lys Lys Asp Arg Gln Asn Lys Ala Leu Val Asp  
 115 120 125  
 Glu Ile Ser Ala Thr Ile Ile Leu Gln Ser Tyr Leu Glu Thr Lys Arg  
 130 135 140  
 Leu  
 145

<210> 7601  
 <211> 356  
 <212> PRT  
 <213> B.fragilis

<400> 7601  
 Cys Ala Ile Cys Ser Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp  
 1 5 10 15  
 Thr Ile Leu Arg Ala Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr  
 20 25 30  
 Thr Ser Asp Gln Gly Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu  
 35 40 45  
 Asn Thr Leu Leu Ile Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu  
 50 55 60  
 Ile Glu Glu Tyr Asp Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu  
 65 70 75 80  
 Lys Tyr Asp Ala Lys Pro Thr Tyr Lys Lys Phe Leu Gly Tyr Arg Pro  
 85 90 95  
 Gly Val Tyr Val Ile Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp  
 100 105 110  
 Gly Asn Thr Asn Val Arg Phe His Gln Ala Asp Thr His Lys Arg Phe  
 115 120 125  
 Phe Ala Leu Leu Glu Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala  
 130 135 140  
 Asp Cys Gly Ser Cys Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His  
 145 150 155 160  
 Cys Lys His Phe Tyr Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn  
 165 170 175  
 Asp Ile Phe Ala Leu Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile  
 180 185 190  
 Gln Phe Glu Leu Asn Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys  
 195 200 205  
 Tyr Arg Leu Val Ile Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp  
 210 215 220  
 Leu Trp Glu Gly Glu Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr  
 225 230 235 240  
 Lys Ser Ser Thr Arg Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly  
 245 250 255  
 Lys Glu Arg Ile Phe Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg  
 260 265 270  
 Leu Pro Lys Ser Phe Met Ala Glu Asn Thr Val Phe Leu Leu Thr  
 275 280 285  
 Ala Leu Ile His Asn Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr  
 290 295 300

Lys Ala Phe Gly Leu Lys Lys Thr Ser Arg Ile Lys Ala Phe Val Phe  
 305 310 315 320  
 Arg Phe Ile Ser Val Pro Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr  
 325 330 335  
 Val Leu Asn Ile Tyr Thr Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys  
 340 345 350  
 Thr Glu Phe Gly  
 355

<210> 7602  
 <211> 185  
 <212> PRT  
 <213> B.fragilis

<400> 7602  
 Phe Leu Cys Arg Lys Lys Gln Ser Ile Val His Ile Val Tyr Ile Cys  
 1 5 10 15  
 Lys Lys Arg Ile Thr Ile Leu Thr Ile Asp Phe Leu Tyr His Met Thr  
 20 25 30  
 Lys Glu Glu Leu Met Arg Lys Ala Ile Glu Leu Ser Arg Glu Asn Val  
 35 40 45  
 Ala Asn Gly Gly Pro Phe Gly Ala Val Ile Ala Lys Asn Gly Glu  
 50 55 60  
 Ile Val Ala Thr Gly Val Asn Arg Val Thr Ala Ser Cys Asp Pro Thr  
 65 70 75 80  
 Ala His Ala Glu Val Ser Ala Ile Arg Ala Ala Ala Ser Lys Leu Gly  
 85 90 95  
 Thr Phe Asn Leu Ser Gly Tyr Glu Ile Tyr Thr Ser Cys Glu Pro Cys  
 100 105 110  
 Pro Met Cys Leu Gly Ala Ile Tyr Trp Ala Arg Leu Asp Lys Met Tyr  
 115 120 125  
 Tyr Gly Asn Asn Lys Thr Asp Ala Lys Asn Ile Gly Phe Asp Asp Ser  
 130 135 140  
 Phe Ile Tyr Asp Glu Leu Glu Leu Lys Pro Glu Asn Arg Lys Leu Pro  
 145 150 155 160  
 Ser Glu Val Leu Leu His Asp Glu Ala Ile Lys Ala Phe Glu Glu Trp  
 165 170 175  
 Met Glu Lys Glu Asp Lys Ile Glu Tyr  
 180 185

<210> 7603  
 <211> 216  
 <212> PRT  
 <213> B.fragilis

<400> 7603  
 Arg Glu Arg Arg Ile Gln Pro Asp Ala Thr Tyr His Gln Tyr Thr Ser  
 1 5 10 15  
 Thr Ser Ala Thr Asp His Pro Pro Asp Glu Arg Cys Arg Arg Val Arg  
 20 25 30  
 Asn Arg Arg Asn Arg Arg Asp Asn Arg Met Gln Leu Arg Ser His Pro  
 35 40 45  
 Gln Gln Phe Ile Gln Gly Thr Glu Lys Ser Lys Arg His Leu Pro Ala  
 50 55 60  
 Asn His Thr Thr Lys Lys Lys Glu Lys Arg Ser Met Asn Ile Glu Glu  
 65 70 75 80  
 Leu Leu Asn Lys Tyr Phe Glu Gly Glu Thr Thr Cys Glu Glu Glu Arg  
 85 90 95  
 Glu Leu Arg Arg Phe Phe Thr Arg Gly Ile Val Pro Glu His Leu Gln

100	105	110
Met Tyr Arg Pro Met Phe Ala Phe Leu Asn Glu Glu Asn Arg Gln Ser		
115	120	125
Lys Thr Ala Val Pro Glu Val Pro Lys Thr Ser Val Pro Leu Arg Arg		
130	135	140
Arg Leu Leu Tyr Ile Phe Ser Gly Met Ala Ala Gly Ile Leu Leu Ile		
145	150	155
Leu Gly Ile Ala Gly Leu Asn Arg His Phe Asn Thr Ser Thr Ala Asn		
165	170	175
Tyr Val Ile Ile Asp Gly Lys Cys Tyr Thr Asp Ala Lys Leu Val Arg		
180	185	190
Glu Gln Ala Met Ile Ala Phe Arg Asp Val Ser Ile Ser Glu Glu Glu		
195	200	205
Val Phe Ala Thr Leu Phe Ser Glu		
210	215	

<210> 7604

<211> 659

<212> PRT

<213> B.fragilis

<400> 7604

Val Ser Leu Arg Leu Ile Met Arg Arg Ile Leu Leu Thr Tyr Ile Leu		
1	5	10
Leu Val Val Gly Leu Leu Thr Ala Gln Ala Gln Phe Asn Pro Thr Gln		
20	25	30
Gln Val Asp Pro Arg Thr Gly Arg Asp Ala Asn Gly Asn Gln Ile Asp		
35	40	45
Pro Ala Met Arg Val Gln Glu Asp Ser Thr Asp Val Glu Ile Gln Gly		
50	55	60
Leu Pro Pro Thr Leu Tyr Met Trp His Val Ser Glu Asn Leu Gly Thr		
65	70	75
Ile Gln Arg Ile Pro Ala Asp Thr Ala Thr His Met Phe Gln Asn Thr		
85	90	95
Asn Leu Val Glu Gly Leu Thr Gly His Tyr Asn Tyr Leu Gly Asn Leu		
100	105	110
Gly Ser Pro Arg Leu Ser Arg Leu Phe Phe Glu Arg Arg Asp Ala Glu		
115	120	125
Pro Thr Ile Phe Met Glu Pro Phe Ser Ser Phe Phe Ile Arg Pro Asp		
130	135	140
Glu Phe Asn Phe Thr Asn Ser Asn Val Pro Phe Thr Asn Leu Thr Tyr		
145	150	155
Tyr Lys Ala Gly Asn Lys Ile Asn Gly Glu Glu Arg Phe Lys Ser Tyr		
165	170	175
Phe Ser Val Asn Val Asn Lys Arg Leu Ala Phe Gly Phe Asn Phe Asp		
180	185	190
Tyr Leu Tyr Gly Arg Gly Tyr Tyr Asn Asn Gln Asn Thr Ser Tyr Phe		
195	200	205
Asn Ala Ala Leu Phe Gly Ser Tyr Ile Gly Asp Arg Tyr Glu Ala Thr		
210	215	220
Leu Leu Tyr Ser Asn Asn Tyr Leu Lys Met Asn Glu Asn Gly Gly Ile		
225	230	235
Thr Asp Asp Arg Tyr Ile Thr Arg Pro Glu Glu Met Ala Glu Gly Lys		
245	250	255
Lys Glu Tyr Glu Ser Gln Asn Ile Pro Thr Leu Leu Ser Lys Ser Ala		
260	265	270
Asn Arg Asn Lys Asp Phe Tyr Ile Phe Leu Thr Gln Arg Tyr Lys Leu		
275	280	285
Gly Phe Thr Arg Glu Val Glu Lys Ala Lys Asp Asp Thr Thr Asn Thr		

290	295	300
Gln Lys Thr Glu Phe Val Pro Val Thr Ser Phe Ile His Thr Met Lys		
305	310	315
Val Glu Arg Ser Arg His Gln Phe Thr Ser Glu Asp Glu Leu Tyr Lys		320
325	330	335
Ile Tyr Pro Glu Ala Tyr Ile Gln Pro Gly Asn Lys Leu Val Asn Asp		
340	345	350
Ser Thr Ser Tyr Ile Gly Val Lys Asn Thr Leu Gly Ile Ala Leu Leu		
355	360	365
Glu Gly Phe Asn Lys Tyr Ala Lys Ala Gly Leu Thr Ala Phe Ile Ser		
370	375	380
His Lys Leu Ser Asn Tyr Arg Leu Met Asp Arg Asp Ser Val Ser Val		
385	390	395
Asp Lys Tyr Ser Glu His Glu Val Phe Val Gly Gly Glu Leu Ala Lys		400
405	410	415
Arg Gln Gly Lys Thr Leu His Tyr Arg Ala Met Gly Glu Val Gly Ile		
420	425	430
Leu Asp Lys Ala Ile Gly Gln Phe Arg Val Asn Ala Asn Leu Asp Leu		
435	440	445
Asn Phe Arg Leu Trp Lys Asp Thr Val Ser Phe Ile Ala Arg Gly Ser		
450	455	460
Ile Ser Asn Thr Leu Pro Ala Phe Tyr Met Arg His Tyr His Ser Lys		
465	470	475
Tyr Phe Tyr Trp Asp Asn Asp Asn Met Glu Lys Glu Phe Arg Thr Arg		480
485	490	495
Leu Glu Gly Glu Leu Asn Ile Glu His Trp Gln Thr Asn Leu Lys Ala		
500	505	510
Gly Val Glu Asn Ile Lys Asn Tyr Thr Tyr Phe Asn Gln Lys Ala Leu		
515	520	525
Pro Gln Gln Asn Gly Gly Asn Ile Gln Val Leu Ser Ala Thr Leu Ser		
530	535	540
Gln Asn Phe Arg Leu Gly Ile Leu His Leu Asp Asn Glu Val Thr Trp		
545	550	555
Gln Lys Ser Ser Asn Asn Thr Val Leu Pro Leu Pro Glu Leu Ser Leu		
565	570	575
Tyr His Asn Leu Tyr Ile Gln Thr Thr Leu Ala Lys Lys Val Leu His		
580	585	590
Val Gln Leu Gly Ala Asp Val Arg Tyr Phe Thr Lys Tyr Tyr Ala Pro		
595	600	605
Ala Tyr Thr Pro Ala Ile Gln Gln Phe His Leu Gln Pro Glu Asp Asp		
610	615	620
Gln Val Lys Ile Gly Gly Tyr Pro Ile Ile Asn Val Tyr Ala Asn Leu		
625	630	635
Gln Leu Lys Arg Thr Arg Leu Phe Ala Met Met Tyr His Val Asn Gln		640
645	650	655
Gly Asn Gly		

&lt;210&gt; 7605

&lt;211&gt; 369

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7605

Ser Lys Ser Arg Ile Lys Glu Lys Asn Met Ala Glu Glu Val Val Leu  
1 5 10 15Met Lys Gly Asn Glu Ala Ile Ala His Ala Ala Ile Arg Cys Gly Ala  
20 25 30

Asp Gly Tyr Phe Gly Tyr Pro Ile Thr Pro Gln Ser Glu Val Leu Glu

35	40	45
Thr Leu Ala Glu Leu Arg Pro Trp Glu Thr Thr Gly Met Val Val Leu		
50	55	60
Gln Ala Glu Ser Glu Val Ala Ala Ile Asn Met Val Tyr Gly Gly Ala		
65	70	75
Gly Ser Gly Lys Met Val Met Thr Ser Ser Ser Pro Gly Val Ser		
85	90	95
Leu Lys Gln Glu Gly Ile Ser Tyr Leu Ala Gly Ala Glu Leu Pro Cys		
100	105	110
Leu Ile Val Asn Val Met Arg Gly Gly Pro Gly Leu Gly Thr Ile Gln		
115	120	125
Pro Ser Gln Ala Asp Tyr Phe Gln Thr Val Lys Gly Gly His Gly		
130	135	140
Asp Tyr Lys Leu Ile Ala Leu Ala Pro Ala Ser Val Gln Glu Met Ala		
145	150	155
Asp Phe Val Gly Leu Ala Phe Glu Leu Ala Phe Lys Tyr Arg Asn Pro		
165	170	175
Ala Ile Ile Leu Ala Asp Gly Val Ile Gly Gln Met Met Glu Lys Val		
180	185	190
Val Leu Pro Pro Ala Lys Ala Arg Arg Thr Asp Ala Glu Val Ile Ala		
195	200	205
Gln Cys Pro Trp Ala Ser Thr Gly Lys Thr Lys Asp Arg Lys Pro Asn		
210	215	220
Ile Ile Thr Ser Leu Glu Leu Arg Pro Glu Glu Met Glu Lys Asn Asn		
225	230	235
Leu Arg Phe Gln Ala Lys Tyr Arg Val Ile Glu Glu Asn Glu Val Arg		
245	250	255
Phe Glu Glu Ile Asp Cys Glu Asp Ala Glu Tyr Leu Ile Val Ala Phe		
260	265	270
Gly Ser Met Ala Arg Ile Gly Gln Lys Ala Met Glu Leu Ala Arg Glu		
275	280	285
Glu Gly Ile Lys Val Gly Met Leu Arg Pro Ile Thr Leu Trp Pro Phe		
290	295	300
Pro Thr Lys Ala Ile Ala Glu Tyr Ala Asn Lys Val Lys Gly Met Leu		
305	310	315
Val Thr Glu Leu Asn Ala Gly Gln Met Val Glu Asp Val Arg Leu Ala		
325	330	335
Val Asn Gly Arg Val Lys Val Glu His Phe Gly Arg Leu Gly Gly Ile		
340	345	350
Val Pro Asp Pro Asp Glu Ile Val Thr Ala Leu Lys Glu Gln Leu Ile		
355	360	365
Lys		

&lt;210&gt; 7606

&lt;211&gt; 332

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7606

Leu Pro Glu Arg Lys Pro Cys Arg Ile Ile Val Leu Asn Asn Val		
1	5	10
Pro Gln Ile Ser Leu Tyr Tyr Gln Pro Ser Phe Lys Asp Ser Thr Val		
20	25	30
Asn Ile Ser Arg Gln Asp Trp Glu Val Ser Tyr Asn Leu Gly Asn Ser		
35	40	45
Trp Asn Lys Val Lys Arg Asn Lys Lys Ala Asn Ser Ser Leu Tyr Lys		
50	55	60
Val Asp Ile Thr Ile Tyr Pro Glu Leu Ser Leu Lys Asn Leu Val Ile		

65	70	75	80
Thr Gln Ile Tyr Gln Val Leu Phe Asn Leu Ser Pro Ala Ile Glu Val			
85		90	95
Ser Phe Trp Lys Gly Met Lys Phe Thr Ala Gln Met Val Ile Pro Val			
100		105	110
Tyr Asn Asp Gly Tyr Ala Ser Arg Tyr Asp Lys Leu His Pro Gly Phe			
115		120	125
Leu Glu Leu Ser Gln Thr Val Arg Leu Pro Tyr Asn Phe Trp Ala Thr			
130		135	140
Leu Ala Ile Gly Ser Phe Asn Asn Ser Arg Tyr Gly Ile Asp Phe Asn			
145		150	155
Leu Ile His His Phe Lys Asp Glu Arg Phe Ser Ile Glu Gly Arg Ile			
165		170	175
Gly Tyr Thr Gly Thr Gly Tyr Trp Glu Gly Phe Thr Met His Tyr Gly			
180		185	190
Thr Lys Met Arg Ala Thr Trp Ser Leu Gly Gly Ser Phe Tyr Trp Pro			
195		200	205
Arg Tyr Asn Val Glu Leu Asn Ala Arg Val Glu Gln Tyr Leu Leu Lys			
210		215	220
Glu Lys Ala Val Arg Val Glu Ala Ile Arg His Phe Arg Tyr Ala Ser			
225		230	235
Ile Gly Phe Tyr Ala Met Lys Ala Lys Asp Val Lys Ala Asn Gly Gly			
245		250	255
Phe Arg Phe Gln Ile Ala Leu Pro Pro Tyr Arg Tyr Lys Arg Lys Gly			
260		265	270
Tyr Ile Pro Arg Ile Thr Pro Ser Asn Asn Met Gly Met Ser Tyr Asn			
275		280	285
Ala Gly Asn Glu Gln Tyr Tyr Lys Thr Tyr Arg Ser Ala Pro Asp			
290		295	300
Asp Asn Ile Met Lys Asn Asn Ser Phe Asn Pro Tyr Phe Thr Leu Ile			
305		310	315
Pro Gln His Tyr Asn Leu Thr Leu Phe Ile Ser Ser			
325		330	

&lt;210&gt; 7607

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7607

Lys Lys Arg Ser Met Asn Lys Val Ile Arg Thr Thr Trp Ile Ile Leu			
1	5	10	15
Leu Leu Thr Val Ala Ser Gly Met Ala Arg Ala Gln Gln Gly Leu Gln			
20	25	30	
Ile Ala Ser Val Phe Gln Lys Tyr Gly Lys Gln Lys Gly Val Thr Met			
35	40	45	
Val Glu Leu Ser Asn Glu Met Leu Glu Thr Tyr Gln Met Thr Leu Tyr			
50	55	60	
Lys Ser Leu Val Phe Lys Asp Val Glu Glu Ala Leu Pro Thr Ile Leu			
65	70	75	80
Asn Cys Leu Asp Ala Asp Lys Lys Ala Lys Lys Val Lys Glu Val			
85	90	95	
Val Ala Gly Gly Gln Ile Gln Ser Gly Tyr Tyr Gln Leu Pro Gln Leu			
100	105	110	
Lys Glu Asp Val Asn Arg Phe Ile Leu Phe Lys Thr Gly Lys Lys Gly			
115	120	125	
Ser Ala Thr Leu Ile Tyr Ile Glu Gly Glu Leu Asp Ala Asp Asp Leu			
130	135	140	
Val Thr Met Leu Phe Met Lys Lys Asn			

145

150

<210> 7608  
<211> 330  
<212> PRT  
<213> B.fragilis

<400> 7608

Lys	Asp	Met	Ser	Asn	Lys	Ile	Ile	Lys	Trp	Gly	Phe	Ile	Gly	Cys	Gly
1						5				10				15	
Glu	Val	Thr	Lys	Tyr	Lys	Ser	Gly	Pro	Ala	Phe	Gln	Lys	Val	Glu	Gly
				20				25				30			
Ser	Lys	Val	Val	Ala	Val	Met	Ser	Arg	Asp	Gly	Lys	Lys	Ala	Lys	Ala
				35		40					45				
Tyr	Ala	Lys	Glu	Arg	Asn	Ile	Pro	Lys	Trp	Tyr	Asp	Asp	Ala	Gln	Glu
				50		55				60					
Leu	Ile	Asp	Asp	Pro	Glu	Val	Asn	Ala	Val	Tyr	Ile	Ala	Thr	Pro	Pro
				65		70				75			80		
Ser	Ser	His	Ala	Thr	Tyr	Ala	Ile	Met	Ser	Met	Lys	Ala	Gly	Lys	Pro
				85					90			95			
Val	Tyr	Ile	Glu	Lys	Pro	Met	Ala	Gln	Thr	Tyr	Glu	Glu	Cys	Ala	Arg
				100			105				110				
Ile	Asn	Arg	Ile	Ser	Gln	Glu	Thr	Gly	Val	Pro	Cys	Phe	Val	Ala	Tyr
				115		120				125					
Tyr	Arg	Arg	Tyr	Leu	Pro	Tyr	Phe	Met	Lys	Val	Lys	Glu	Leu	Val	Asp
				130		135				140					
Lys	Gly	Thr	Ile	Gly	Asn	Val	Ile	Asn	Val	Gln	Ile	Arg	Phe	Ala	Gln
				145		150				155			160		
Pro	Pro	Arg	Asp	Leu	Asp	Tyr	Asn	Arg	Glu	Asn	Leu	Pro	Trp	Arg	Val
				165				170			175				
Gln	Ala	Asp	Ile	Ala	Gly	Gly	Tyr	Phe	Tyr	Asp	Leu	Ala	Pro	His	
				180		185				190					
Gln	Ile	Asp	Leu	Leu	Gln	Glu	Met	Phe	Gly	Cys	Ile	Leu	Glu	Ala	Ser
				195		200				205					
Gly	Tyr	Lys	Ser	Asn	Arg	Gly	Gly	Leu	Tyr	Pro	Ala	Glu	Asp	Thr	Leu
				210		215				220					
Ser	Ala	Cys	Phe	Gln	Phe	Asp	Asn	Gly	Leu	Val	Gly	Ser	Gly	Ser	Trp
				225		230				235			240		
Cys	Phe	Val	Ala	His	Asp	Ser	Ala	Arg	Glu	Asp	Arg	Ile	Glu	Ile	Ile
				245				250			255				
Gly	Asp	Lys	Gly	Met	Ile	Cys	Phe	Ser	Val	Phe	Thr	Tyr	Asp	Pro	Ile
				260			265				270				
Ala	Leu	His	Thr	Glu	Arg	Gly	Arg	Glu	Glu	Ile	Met	Val	Glu	Asn	Pro
				275			280				285				
Glu	His	Val	Gln	Gln	Pro	Leu	Ile	Gln	Ala	Val	Val	Asp	His	Leu	Leu
				290		295				300					
Gly	Lys	Ser	Thr	Cys	Ser	Cys	Asp	Gly	Glu	Ser	Ala	Thr	Thr	Thr	Asn
				305		310				315			320		
Trp	Val	Met	Asp	Lys	Ile	Leu	Gly	Lys	Ile						
				325			330								

<210> 7609  
<211> 376  
<212> PRT  
<213> B.fragilis

<400> 7609

Leu	Phe	Trp	Ser	Met	Lys	Lys	Leu	Gly	Leu	Leu	Leu	Met	Leu	Phe	Thr
1				5					10				15		

Phe Ala Ala Cys Thr Asn Asp Asp Phe Ser Val Leu Gln Glu Asn Glu  
     20                 25                 30  
 Glu Ile Thr Leu Pro Thr Ala Val Thr Arg Ala Ser Gly Asp Lys Leu  
     35                 40                 45  
 Tyr Asp Leu Leu Gly Tyr Gly Tyr Asp Val Thr Gly Leu Tyr Phe Thr  
     50                 55                 60  
 Ser Ala Ser Ala Lys Ser Lys Ile Ile Asp Ile Val Ala Leu Arg Lys  
    65              70              75             80  
 Asp Tyr Glu Glu Arg Val Asp Ile Gly Ala Val Pro Ser Asn Tyr Ala  
    85              90              95  
 Arg Met Thr Ser Gly Thr Thr Ala Gln Asp Tyr Thr Arg Asn Val Thr  
   100             105             110  
 Ser Lys Val Lys Leu Gly Gly Ala Leu Ser Leu Phe Ser Gly Ser Leu  
   115             120             125  
 Ser Ser Ser Phe Ser Ser Thr Gln His Tyr Thr Ser Lys Tyr Ser Ile  
   130             135             140  
 Ala Asp Tyr Thr Ser Phe Ile Arg Arg Arg Leu Phe Leu Thr Ala  
   145             150             155             160  
 Ser Thr Glu Leu Leu Ser Lys Tyr Leu Thr Lys Met Phe Val Asp Asp  
   165             170             175  
 Leu Ser Lys Gln Ser Pro Ser Phe Ile Ile Gln His Tyr Gly Thr His  
   180             185             190  
 Val Leu Thr Asp Ile Thr Leu Gly Gly Arg Ile Thr Val Leu Tyr Arg  
   195             200             205  
 Ser Ser Ile Asn Thr Ser Lys Lys Thr Ala Thr Val Glu Ala Gly Cys  
   210             215             220  
 Ala Ser Gly Ile Lys Asn Met Phe Asn Leu Ser Val Asp Gly His Tyr  
   225             230             235             240  
 Asp Gln Thr Leu Val Lys Asp Asn Ser Glu Gln Glu Ile Val Tyr Arg  
   245             250             255  
 Thr Glu Gly Gly Asp Pro Ser Arg Ala Leu Ile Gly Gln Leu Asn Tyr  
   260             265             270  
 Asp Ser Lys Asn Pro Ser Val Ile Asp Ile Ser Ser Trp Gln Gln Ser  
   275             280             285  
 Cys Asp Asp Asn Asn Met Thr Leu Val Asp Ala Glu Pro Gly Ser Leu  
   290             295             300  
 Ile Pro Ile Tyr Asp Leu Val Ser Asp Met Gly Lys Lys Glu Gln Leu  
   305             310             315             320  
 Lys Leu Ala Val Glu Asn Tyr Leu Lys Glu His Ser Tyr Val Asp Ile  
   325             330             335  
 Asp Asp Ser Ser Lys Gly Gly Ala Val Arg Asn Asn Ser Arg Gly His  
   340             345             350  
 Asn Thr Ser Ser Tyr Gly Asn Ser Thr Arg Val Ile Gly Ala Asn Gly  
   355             360             365  
 Asn Arg Ser Thr Tyr Arg Arg Pro  
   370             375

&lt;210&gt; 7610

&lt;211&gt; 325

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7610

Lys Lys Gly Gly Lys Met Ile Gln Lys Thr Tyr Arg Leu Trp Val Ala  
   1              5              10             15  
 Ser Leu Leu Thr Leu Cys Ser Ala Ser Ala Ala Gln Gln Lys Val  
   20             25             30  
 Glu Ile Leu Pro Phe Gly Asn Met Asp Gln Trp Val Thr Arg Glu Ile  
   35             40             45

Lys Glu Ser Gly Ile Ile Gly Gly Asn Thr Lys Lys Val Tyr Ala Ile  
 50 55 60  
 Gly Pro Thr Glu Thr Ile Val Gly Ala Lys Pro Tyr Thr Asn Lys Gly  
 65 70 75 80  
 Gly Ser Pro Trp Gly Thr Ser Asn Val Met Ala Arg Val Ser Gly Ile  
 85 90 95  
 Thr Lys Thr Asn Thr Ser Val Phe Pro Glu Thr Arg Gly Asp Gly Phe  
 100 105 110  
 Cys Ala Arg Leu Asp Thr Arg Met Glu Ser Val Lys Val Leu Gly Ile  
 115 120 125  
 Val Asp Ile Thr Val Leu Ala Ala Gly Ser Met Phe Leu Gly Thr Val  
 130 135 140  
 His Glu Pro Ile Lys Ser Thr Lys Asn Pro Asn Lys Met Leu Gln Met  
 145 150 155 160  
 Gly Ile Pro Phe Thr Glu Arg Pro Ser Ala Ile Gln Phe Asp Tyr Lys  
 165 170 175  
 Val Lys Met Ser Asp Arg Glu Asn Arg Ile Arg Ala Thr Gly Phe Ser  
 180 185 190  
 Lys Ile Thr Asp Val Pro Gly Lys Asp Phe Pro Ala Val Ile Leu Leu  
 195 200 205  
 Leu Gln Lys Arg Trp Glu Asp Ala Lys Gly Asn Val Tyr Ala Lys Arg  
 210 215 220  
 Ile Gly Thr Met Val Asn Tyr Tyr His Ser Thr Asp Trp Lys Asn  
 225 230 235 240  
 Gly Ser Lys Tyr Asp Ile Met Tyr Gly Asp Ile Thr Lys Asp Pro Ala  
 245 250 255  
 Tyr Lys Ala His Met Met Arg Leu Gln Ala Ser Glu Tyr Phe Thr Val  
 260 265 270  
 Asn Ser Lys Gly Glu Ser Val Pro Ile His Glu Val Ala Trp Gly Glu  
 275 280 285  
 Ala Asp Asp Val Pro Thr His Met Ile Leu Gln Phe Thr Ser Ser His  
 290 295 300  
 Gly Gly Ala Tyr Ile Gly Ser Pro Gly Asn Ser Leu Tyr Ile Asp Asn  
 305 310 315 320  
 Val Lys Leu Ile Tyr  
 325

&lt;210&gt; 7611

&lt;211&gt; 411

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7611

Asp Lys Arg Gly Tyr Thr Ser Pro Thr Pro Ile Gln Glu Gln Ser Ile  
 1 5 10 15  
 Pro Ile Leu Leu Gln Gly Lys Asp Leu Leu Gly Cys Ala Gln Thr Gly  
 20 25 30  
 Thr Gly Lys Thr Ala Ala Phe Ser Ile Pro Ile Leu Gln Lys Leu Tyr  
 35 40 45  
 Lys Thr Asp His Arg Lys Gly Ile Lys Ala Leu Val Leu Thr Pro Thr  
 50 55 60  
 Arg Glu Leu Ala Ile Gln Ile Gly Glu Ser Phe Glu Ala Tyr Gly Arg  
 65 70 75 80  
 Tyr Thr Gly Leu Lys His Ala Val Ile Phe Gly Gly Val Gly Gln Lys  
 85 90 95  
 Pro Gln Thr Asp Ala Leu Arg Ser Gly Ile Gln Ile Leu Val Ala Thr  
 100 105 110  
 Pro Gly Arg Leu Leu Asp Leu Ile Ser Gln Gly Phe Ile Ser Leu Asn  
 115 120 125

Ser Leu Asp Phe Phe Val Leu Asp Glu Ala Asp Arg Met Leu Asp Met  
 130 135 140  
 Gly Phe Ile His Asp Ile Lys Arg Ile Leu Lys Leu Leu Pro Ala Arg  
 145 150 155 160  
 Arg Gln Thr Leu Phe Phe Ser Ala Thr Met Pro Pro Glu Ile Glu Thr  
 165 170 175  
 Leu Ala Asn Ser Met Leu Thr Lys Pro Glu Lys Val Glu Val Thr Pro  
 180 185 190  
 Ala Ser Ser Thr Val Asp Ile Ile Ser Gln Gln Val Tyr Phe Val Glu  
 195 200 205  
 Lys Lys Glu Lys Lys Asp Leu Leu Ile His Leu Leu Lys Asp Thr Ser  
 210 215 220  
 Ile Glu Ser Val Leu Ile Phe Thr Arg Thr Lys Tyr Gly Ala Asp Lys  
 225 230 235 240  
 Leu Ala Arg Val Leu Thr Lys Ala Gly Ile Gly Ala Glu Ala Ile His  
 245 250 255  
 Gly Asn Lys Thr Gln Asn Ala Arg Gln Arg Ala Leu Thr Asn Phe Lys  
 260 265 270  
 Asn His Thr Leu Arg Ala Leu Ile Ala Thr Asp Ile Ala Ala Arg Gly  
 275 280 285  
 Ile Asp Val Asp Gln Leu Ser His Val Ile Asn Tyr Glu Leu Pro Asn  
 290 295 300  
 Val Pro Glu Thr Tyr Val His Arg Ile Gly Arg Thr Gly Arg Ala Gly  
 305 310 315 320  
 His Glu Gly Val Ala Ile Ser Phe Cys Glu Ser Glu Glu Leu Pro Tyr  
 325 330 335  
 Leu Lys Asp Ile Gln Lys Leu Ile Gly Lys Asn Ile Pro Val Val Lys  
 340 345 350  
 Asp His Pro Phe Val Thr Thr Glu Gly Ile Lys Ala Gln Glu Glu Lys  
 355 360 365  
 Gln Glu Glu Ile Lys Val Lys Ala Lys Ala Asn Lys Thr Tyr Arg Gly  
 370 375 380  
 Ser Arg Ala Asn Gly Asp Phe Trp Arg Arg Lys Lys Gln Lys Thr Asn  
 385 390 395 400  
 Gln Pro Ser Ser Thr Lys Gln Glu Lys Arg Lys  
 405 410

<210> 7612

<211> 332

<212> PRT

<213> B.fragilis

<400> 7612

Ser Lys Phe Ile Thr Arg Lys Thr Lys Met Tyr Pro Leu Lys Phe Glu  
 1 5 10 15  
 Pro Ile Leu Lys Gln Thr Leu Trp Gly Gly Asp Lys Ile Ile Pro Phe  
 20 25 30  
 Lys His Leu Asn Asp Asp Leu Lys Gly Val Gly Glu Ser Trp Glu Ile  
 35 40 45  
 Ser Gly Val Glu Asn Asn Glu Ser Val Val Ala Asn Gly Pro Asp Lys  
 50 55 60  
 Gly Leu Thr Leu Thr Asp Met Val Lys Lys Tyr Arg Glu Glu Leu Val  
 65 70 75 80  
 Gly Glu Ala Asn Tyr Ala Arg Phe Gly Asn Glu Phe Pro Leu Leu Ile  
 85 90 95  
 Lys Phe Ile Asp Ala Lys Gln Asp Leu Ser Ile Gln Val His Pro Thr  
 100 105 110  
 Asp Glu Leu Ala Lys Lys Arg His Asn Ser Lys Gly Lys Thr Glu Met  
 115 120 125

Trp Tyr Val Val Gly Ala Asp Glu Gly Ala Lys Leu Arg Ser Gly Phe  
 130 135 140  
 Ser Glu Gln Ile Thr Pro Lys Glu Tyr Lys Asp Arg Val His Asn Asn  
 145 150 155 160  
 Thr Ile Thr Asp Val Leu Gln Glu Tyr Glu Ile His Pro Gly Asp Val  
 165 170 175  
 Phe Phe Leu Pro Ala Gly Arg Ile His Ser Ile Gly Ala Gly Ala Phe  
 180 185 190  
 Ile Ala Glu Ile Gln Gln Thr Ser Asp Ile Thr Tyr Arg Ile Tyr Asp  
 195 200 205  
 Phe Asn Arg Lys Asp Ala Asn Gly Lys Thr Arg Glu Leu His Thr Ser  
 210 215 220  
 Gln Ala Leu Asp Ala Ile Asn Tyr Glu Val Leu Asp Asp Tyr Arg Thr  
 225 230 235 240  
 Lys Tyr Glu Pro Leu Lys Asp Glu Pro Val Glu Leu Val Ala Cys Pro  
 245 250 255  
 Tyr Phe Thr Thr Ser Val Tyr Asp Met Ser Glu Gln Ile Ser Cys Asp  
 260 265 270  
 Tyr Ser Glu Leu Asp Ser Phe Val Ile Phe Ile Cys Ile Glu Gly Ser  
 275 280 285  
 Cys Leu Met Thr Asp Asn Glu Gly Asn Glu Val Arg Leu Gly Ala Gly  
 290 295 300  
 Glu Thr Val Leu Leu Pro Ala Thr Thr Gln Glu Leu Thr Ile Val Pro  
 305 310 315 320  
 Gln Glu Gly Asn Val Lys Leu Leu Glu Thr Tyr Val  
 325 330

&lt;210&gt; 7613

&lt;211&gt; 185

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7613

Val Asn Ile Ile Lys Met Lys Glu Glu Ile Ile Ala Gly Phe Gly  
 1 5 10 15  
 Gly Gln Gly Val Leu Ser Met Gly Lys Ile Leu Ala Tyr Ser Gly Leu  
 20 25 30  
 Met Glu Gly Lys Glu Val Thr Trp Met Pro Ala Tyr Gly Pro Glu Gln  
 35 40 45  
 Arg Gly Gly Thr Ala Asn Val Thr Val Ile Val Ser Asp Asp Lys Ile  
 50 55 60  
 Ser Ser Pro Ile Leu Ser Lys Tyr Asp Thr Ala Ile Ile Leu Asn Gln  
 65 70 75 80  
 Pro Ser Leu Glu Lys Phe Glu Ser Arg Val Lys Pro Gly Gly Ile Leu  
 85 90 95  
 Ile Tyr Asp Gly Tyr Gly Ile Ile Asn Pro Pro Thr Arg Lys Asp Ile  
 100 105 110  
 Lys Val Tyr Arg Ile Asp Ala Met Asp Ala Ala Asn Glu Met Asn Asn  
 115 120 125  
 Ala Lys Ala Phe Asn Met Ile Val Leu Gly Gly Leu Leu Lys Leu Arg  
 130 135 140  
 Pro Ile Val Thr Leu Glu Asn Val Val Lys Gly Leu Lys Lys Thr Leu  
 145 150 155 160  
 Pro Glu Arg His His His Leu Ile Pro Met Asn Glu Glu Ala Ile Lys  
 165 170 175  
 Lys Gly Met Glu Leu Ile Arg Glu Ala  
 180 185

&lt;210&gt; 7614

<211> 185  
<212> PRT  
<213> B.fragilis

<400> 7614

Asp	Met	Ile	Leu	Pro	Ile	Tyr	Val	Tyr	Gly	Gln	Pro	Val	Leu	Arg	Gln	
1																
														15		
Val	Ala	Glu	Asp	Ile	Thr	Val	Asp	Tyr	Pro	Asn	Leu	Lys	Glu	Leu	Ile	
													20	25	30	
Glu	Asn	Met	Phe	Glu	Thr	Met	Asp	His	Ala	Asp	Gly	Val	Gly	Leu	Ala	
													35	40	45	
Ala	Pro	Gln	Ile	Gly	Leu	Pro	Ile	Arg	Val	Val	Val	Ile	Asn	Leu	Asp	
													50	55	60	
Val	Leu	Ser	Glu	Asp	Tyr	Pro	Glu	Tyr	Lys	Asp	Phe	Arg	Lys	Ala	Tyr	
													65	70	75	80
Ile	Asn	Ala	His	Ile	Asp	Val	Val	Glu	Gly	Glu	Glu	Val	Ser	Met	Glu	
													85	90	95	
Glu	Gly	Cys	Leu	Ser	Leu	Pro	Gly	Ile	His	Glu	Ser	Val	Lys	Arg	Gly	
													100	105	110	
Ser	Lys	Ile	His	Val	Arg	Tyr	Met	Asp	Glu	Asn	Phe	Val	Glu	His	Asn	
													115	120	125	
Glu	Val	Val	Glu	Gly	Phe	Leu	Ala	Arg	Val	Met	Gln	His	Glu	Phe	Asp	
													130	135	140	
His	Leu	Asp	Gly	Lys	Met	Phe	Ile	Asp	His	Ile	Ser	Pro	Leu	Arg	Lys	
													145	150	155	160
Gln	Met	Ile	Lys	Gly	Lys	Leu	Asn	Thr	Met	Leu	Lys	Gly	Lys	Ala	Arg	
													165	170	175	
Ser	Ser	Tyr	Lys	Met	Lys	Gln	Val	Lys								
													180	185		

<210> 7615  
<211> 312  
<212> PRT  
<213> B.fragilis

<400> 7615

Ser	Ile	Asp	Met	Asn	Asp	Ser	Lys	Leu	Met	Asn	Arg	Ala	Ala	Asp	Asn	
1																
													5	10	15	
Ile	Arg	Ile	Leu	Ala	Ala	Ser	Met	Val	Glu	Lys	Ala	Asn	Ser	Gly	His	
													20	25	30	
Pro	Gly	Gly	Ala	Met	Gly	Gly	Ala	Asp	Phe	Val	Asn	Val	Leu	Phe	Ser	
													35	40	45	
Glu	Phe	Leu	Val	Tyr	Asp	Pro	Gln	Asn	Pro	Arg	Trp	Glu	Gly	Arg	Asp	
													50	55	60	
Arg	Phe	Phe	Leu	Asp	Pro	Gly	His	Met	Ser	Pro	Met	Leu	Tyr	Ser	Val	
													65	70	75	80
Leu	Ala	Phe	Thr	Gly	Lys	Tyr	Thr	Leu	Asp	Glu	Leu	Lys	Gln	Phe	Arg	
													85	90	95	
Gln	Trp	Gly	Ser	Pro	Thr	Pro	Gly	His	Pro	Glu	Val	Asn	Val	Asp	Arg	
													100	105	110	
Gly	Val	Glu	Asn	Thr	Ser	Gly	Pro	Leu	Gly	Gln	Gly	His	Thr	Tyr	Ala	
													115	120	125	
Val	Gly	Ala	Ala	Ile	Ala	Ala	Lys	Phe	Leu	Lys	Ala	Arg	Phe	Gly	Glu	
													130	135	140	
Val	Met	Asn	Gln	Thr	Ile	Tyr	Ala	Tyr	Ile	Ser	Asp	Gly	Gly	Ile	Gln	
													145	150	155	160
Glu	Glu	Ile	Ser	Gln	Gly	Ala	Gly	Arg	Ile	Ala	Gly	Thr	Leu	Gly	Leu	
													165	170	175	
Asp	Asn	Leu	Ile	Met	Phe	Tyr	Asp	Ser	Asn	Asp	Val	Gln	Leu	Ser	Thr	

180	185	190
Asn Thr Glu Asp Val Thr Thr Glu Asn Val Ala Met Lys Tyr Glu Ala		
195	200	205
Trp Asp Trp Lys Val Ile Thr Ile Asn Gly Asn Asp Pro Asp Glu Ile		
210	215	220
Arg Lys Ala Leu Thr Glu Ala Lys Ala Glu Lys Asn Arg Pro Thr Leu		
225	230	235
Ile Ile Gly Lys Thr Thr Met Gly Lys Gly Ala Arg Arg Ala Asp Gly		
245	250	255
Ser Ser Tyr Glu Ala Asp Cys Ala Thr His Gly Ala Pro Leu Gly Gly		
260	265	270
Asp Ala Tyr Val Asn Thr Ile Lys Asn Leu Gly Gly Asn Pro Glu Asn		
275	280	285
Pro Phe Thr Ile Phe Pro Glu Val Ala Glu Leu Tyr Ala Lys Arg Arg		
290	295	300
Gly Arg Thr Glu Glu Asp Cys Cys		
305	310	

&lt;210&gt; 7616

&lt;211&gt; 376

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7616

Pro Asn Cys Met Pro Asn Ala Ala Glu Glu Leu Lys Lys Ile Val Ala		
1	5	10
Asp Lys Tyr Ala Ala Lys Ala Glu Trp Ala Lys Ala Asn Pro Glu Lys		
20	25	30
Ala Ala Lys Leu Ala Glu Phe Phe Ser Gly Lys Ala Pro Lys Val Asn		
35	40	45
Trp Asp Ala Ile Glu Gln Lys Ala Gly Gly Ala Thr Arg Ala Gly Ser		
50	55	60
Ala Thr Val Leu Gly Ala Leu Ala Thr Gln Val Glu Asn Met Ile Val		
65	70	75
Ser Ser Ala Asp Leu Ser Asn Ser Asp Lys Thr Asp Gly Phe Leu Lys		
85	90	95
Lys Thr His Ala Phe Lys Lys Gly Asp Phe Ser Gly Ala Phe Leu Gln		
100	105	110
Ala Gly Val Ser Glu Leu Ser Met Ala Cys Ile Cys Ile Gly Met Ser		
115	120	125
Leu His Gly Gly Ile Ile Ala Ala Cys Gly Thr Phe Phe Val Phe Ser		
130	135	140
Asp Tyr Met Lys Pro Ala Leu Arg Met Ala Ala Leu Met Glu Gln Pro		
145	150	155
Val Lys Phe Ile Trp Thr His Asp Ala Phe Arg Val Gly Glu Asp Gly		
165	170	175
Pro Thr His Glu Pro Val Glu Gln Glu Ala Gln Val Arg Leu Leu Glu		
180	185	190
Lys Leu Lys Asn His Lys Gly His Asn Ser Met Leu Val Leu Arg Pro		
195	200	205
Ala Asp Val Glu Glu Thr Thr Ile Ala Trp Lys Leu Ala Met Glu Asn		
210	215	220
Met Ser Thr Pro Thr Ala Leu Ile Leu Ser Arg Gln Asn Ile Val Asn		
225	230	235
Leu Pro Ala Gly Thr Asp Tyr Ser Gln Ala Ala Lys Gly Ala Tyr Ile		
245	250	255
Ile Ala Asp Ala Asp Glu Asn Pro Asp Val Ile Leu Val Ala Ser Gly		
260	265	270
Ser Glu Val Ser Thr Leu Val Ala Gly Ala Glu Leu Leu Arg Lys Glu		

275	280	285
Gly Val Lys Val Arg Ile Val Ser Ala Pro Ser Glu	Gly Leu Phe Arg	
290	295	300
Asn Gln Ser Lys Glu Tyr Gln Glu Ser Ile Leu Pro Ala Gly Ala Lys		
305	310	315
Ile Phe Gly Leu Thr Ala Gly Leu Pro Val Asn Leu Glu Gly Leu Val		320
325	330	335
Gly Ser Asn Gly Lys Val Phe Gly Leu Glu Ser Phe Gly Phe Ser Ala		
340	345	350
Pro Tyr Lys Val Leu Asp Glu Lys Leu Gly Phe Thr Ala Glu Asn Val		
355	360	365
Tyr Asn Gln Val Lys Ala Met Leu		
370	375	

&lt;210&gt; 7617

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7617

Ser Asn Asn Met Asp Asn Arg Thr Glu Gln Tyr Ser Leu Arg Glu Leu			
1	5	10	15
Leu Glu Ser Ile Thr Glu Asn Ile Lys Thr Lys Arg Leu Ala Asp Val			
20	25	30	
Phe Arg Phe Ile Ser Phe His Pro Gly Glu Met Tyr Gly Pro His Gln			
35	40	45	
His Leu Arg Ile Glu Ile Asn Tyr Val Lys Lys Gly Ser Cys Ile Leu			
50	55	60	
His Pro Asp His Glu Ser Ile Thr Phe Arg Glu Gly Glu Ile Met Ile			
65	70	75	80
Ile Thr Ser Asp Ile Ser His Leu Phe Glu Ala Gly Ala Asp Gly Thr			
85	90	95	
Thr Leu Met Gln Leu Glu Phe Leu Pro Glu Ile Phe Ser His Phe Asn			
100	105	110	
Leu Asn Ala Thr Ala Asp Ser Asn Gly Ser Ala Leu Leu Trp Thr Asn			
115	120	125	
Arg Phe Lys Ile Lys Ile Glu			
130	135		

&lt;210&gt; 7618

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7618

His Ile Ile Met Glu Glu Asn Asn Ile Tyr Pro Ile Phe Asp Arg			
1	5	10	15
Met Leu Thr Arg Gln Asp Lys Glu Glu Leu Leu Lys Gln Arg Gly Val			
20	25	30	
Met Ile Trp Phe Thr Gly Leu Ser Gly Ser Gly Lys Ser Thr Ile Ala			
35	40	45	
Ile Ala Leu Glu Arg Glu Leu His Lys Arg Gly Leu Leu Cys Arg Ile			
50	55	60	
Leu Asp Gly Asp Asn Ile Arg Thr Gly Ile Asn Asn Asn Leu Gly Phe			
65	70	75	80
Ser Glu Thr Asp Arg Val Glu Asn Ile Arg Arg Ile Ala Glu Val Ser			
85	90	95	
Lys Leu Phe Ile Asp Thr Gly Ile Ile Thr Ile Ala Ala Phe Ile Ser			
100	105	110	

Pro Asn Asn Asp Ile Arg Glu Met Ala Ala Arg Ile Val Gly Pro Asp  
     115                 120                 125  
 Asp Phe Leu Glu Ile Phe Val Ser Thr Pro Leu Ala Glu Cys Glu Lys  
     130                 135                 140  
 Arg Asp Val Lys Gly Leu Tyr Ala Lys Ala Arg Arg Gly Glu Ile Lys  
     145                 150                 155                 160  
 Asn Phe Thr Gly Ile Ser Ala Pro Phe Glu Ala Pro Glu His Pro Ala  
     165                 170                 175  
 Leu Ser Leu Asp Thr Ser Val Leu Ser Leu Glu Glu Ser Val Asn Arg  
     180                 185                 190  
 Leu Leu Glu Ile Val Leu Pro Arg Val Ser Arg His Glu  
     195                 200                 205

&lt;210&gt; 7619

&lt;211&gt; 898

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7619

Leu Ile Ile Ile Pro Thr Thr Met Lys Lys Ser Ile Ile Leu Leu Phe  
 1              5                 10                 15  
 Ile Ser Leu Leu Leu Ser Pro Leu Cys Ile Lys Ala His Gln Pro Glu  
     20                 25                 30  
 Phe Ser Thr Ala Gly Phe Phe Arg Leu Ala Asp Ser Gly Arg Asp Val  
     35                 40                 45  
 Tyr Ser Met Asn Pro Ala Trp Arg Phe Tyr Lys Gly Asn Cys Pro Gly  
     50                 55                 60  
 Ala Glu Thr Gly Asn Phe Asp Asp Arg Ser Trp Thr Val Val Ser Leu  
     65                 70                 75                 80  
 Pro His Gly Ile Glu Tyr Leu Pro Thr Glu Ala Ser Gly Cys Ile Asn  
     85                 90                 95  
 Tyr Gln Gly Glu Val Trp Tyr Arg Lys Gln Phe Thr Pro Asp Ala Ala  
     100                105                110  
 Leu Lys Gly Lys Lys Leu Phe Leu His Phe Glu Ala Ile Met Gly Lys  
     115                120                125  
 Ser Lys Ile Tyr Val Asn Gly Lys Leu Leu Ala Glu His Phe Gly Gly  
     130                135                140  
 Tyr Leu Pro Val Val Val Asp Val Thr Asp Ala Leu Glu Phe Gly Lys  
     145                150                155                 160  
 Glu Asn Leu Ile Ala Val Trp Ala Asp Asn Ser Asn Asp Pro Asn Tyr  
     165                170                175  
 Pro Pro Gly Lys Gln Gln Glu Val Leu Asp Phe Thr Tyr Phe Gly Gly  
     180                185                190  
 Ile Tyr Arg Asp Cys Trp Leu Ile Ala His Asn Gln Val Phe Ile Thr  
     195                200                205  
 Asp Pro Asn Tyr Glu Asn Glu Ala Gly Gly Leu Phe Val Ala  
     210                215                220  
 Tyr Asn Asn Val Ser Asp His Ser Ala Glu Val Leu Leu Lys Ile Gln  
     225                230                235                 240  
 Ile Arg Asn Ser Gly Arg Lys Ala Phe Lys Gly Val Val Glu Tyr Glu  
     245                250                255  
 Leu Gln Gln Pro Asp Gly Gln Gln Val Ala Ser Leu Asn Ser Val Ile  
     260                265                270  
 Arg Ile Lys Pro Gly Lys Ser Thr Tyr Ser Ser Asp Lys Leu Thr Val  
     275                280                285  
 Lys Gly Pro Met Leu Trp Ser Pro Glu Asn Pro Ala Leu Tyr Asn Leu  
     290                295                300  
 Ile Val Arg Ile Arg Asp Glu Lys Gly Asn Pro Ile Asp Gly Tyr Arg  
     305                310                315                 320

Arg Arg Ile Gly Ile Arg Ser Ile Glu Phe Lys Gly Glu Asp Gly Phe  
 325 330 335  
 Trp Leu Asn Gly Lys Pro Tyr Glu Ala Pro Leu Ile Gly Ala Asn Arg  
 340 345 350  
 His Gln Asp Phe Ala Ile Val Gly Asn Ala Val Pro Asn Ser Ile His  
 355 360 365  
 Trp Arg Asp Ala Lys Lys Leu Arg Asp Ala Gly Met Lys Val Ile Arg  
 370 375 380  
 Asn Ala His Cys Pro Gln Asp Pro Ala Phe Met Asp Ala Cys Asp Glu  
 385 390 395 400  
 Leu Gly Leu Phe Val Ile Val Asn Thr Pro Gly Trp Gln Phe Trp Asn  
 405 410 415  
 Asp Ala Pro Val Phe Ala Gln Arg Val Tyr Ser Asp Ile Arg Asn Leu  
 420 425 430  
 Val Arg Arg Asp Arg Asn His Pro Cys Val Trp Met Trp Glu Pro Ile  
 435 440 445  
 Leu Asn Glu Thr Trp Tyr Pro Ala Asn Phe Ala Arg Asn Ala His Asp  
 450 455 460  
 Ile Val Glu Ala Glu Tyr Pro Tyr Pro Tyr Cys Tyr Ser Gly Cys Asp  
 465 470 475 480  
 Ser Glu Ala Lys Gly Lys Glu His Phe Gln Ile Leu Phe Thr His Pro  
 485 490 495  
 Leu Asn Gly Asp Gly Gly Ala Tyr Ser Thr Asn Asp Ile Lys Lys Gln  
 500 505 510  
 Leu Thr Tyr Phe Thr Arg Glu Trp Gly Asp Asn Val Asp Asp Trp Asn  
 515 520 525  
 Ser His Asn Ser Pro Ser Arg Val Ala Arg Asn Trp Gly Glu Gln Ala  
 530 535 540  
 Met Leu Ile Gln Ala Gln His Tyr Ala Arg Pro Ser Tyr Lys Tyr Thr  
 545 550 555 560  
 Ser Tyr Asp Ala Leu Tyr Arg Thr Pro Arg Gln His Val Gly Gly Cys  
 565 570 575  
 Leu Trp His Ser Phe Asp His Gln Arg Gly Tyr His Pro Asp Pro Phe  
 580 585 590  
 Tyr Gly Gly Val Met Asp Val Phe Arg Gln Pro Lys Tyr Ser Tyr Tyr  
 595 600 605  
 Met Phe Met Ala Gln Arg Ser Pro Ile Lys Glu Glu Arg Leu Phe Gln  
 610 615 620  
 Thr Gly Pro Met Val Tyr Ile Ala His Glu Met Thr Pro Phe Ser Gly  
 625 630 635 640  
 Lys Asp Val Thr Val Tyr Ser Asn Cys Asp Glu Val Arg Leu Thr Tyr  
 645 650 655  
 Leu Lys Gly Gly Gln Thr Gln Thr Tyr Val His Lys Gln Glu Lys Glu  
 660 665 670  
 Gly Met Pro His Pro Val Ile Thr Phe Glu Asn Val Tyr Asp Phe Met  
 675 680 685  
 Lys Asp Lys Ala Leu Ser Arg Gln Gly Lys Gln Ala Asp Val Tyr Leu  
 690 695 700  
 Leu Ala Glu Gly Leu Ile Asp Gly Lys Val Val Ala Thr His Lys Val  
 705 710 715 720  
 Ala Pro Ala Arg Arg Pro Glu Lys Leu Leu Leu Trp Val Asp Asn Glu  
 725 730 735  
 Gly Thr Asp Leu Lys Ala Asp Gly Ser Asp Phe Val Thr Val Ile Ala  
 740 745 750  
 Ala Val Ala Asp Lys Asp Gly Asn Ile Lys Arg Leu Asn Asn Tyr Thr  
 755 760 765  
 Ile Lys Phe Gln Ile Glu Gly Glu Gly Arg Ile Leu Gly Gly Ala Gly  
 770 775 780  
 Asn Leu Ala Asn Pro Ala Pro Val Arg Trp Gly Thr Ala Pro Ile Leu

785	790	795	800
Val Gln Ser Thr Leu Lys Pro Gly Lys Ile Lys Ile Thr Ala Ser Val			
805	810	815	
Leu Phe Glu Gly Ser Gln Met Pro Ser Ser Ala Val Leu Glu Leu Glu			
820	825	830	
Ser Lys Pro Gly Asp Phe Pro Gln Ile Tyr Asp Arg Glu Glu Ser Ala			
835	840	845	
Leu Ile Pro Asn Phe Thr Gly Gln Glu Ala Val Asn Ala Leu Ala Pro			
850	855	860	
Lys Ser Glu Ala Ala Leu Glu Lys Glu Arg Leu Gln Lys Ala Glu Asn			
865	870	875	880
Ala Ala Lys Leu Lys Glu Val Glu Gln Gln Glu Glu Phe Gly Glu			
885	890	895	
Lys Lys			

&lt;210&gt; 7620

&lt;211&gt; 418

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7620

Ser Lys Gln Met Asn His Lys Gly Pro Tyr Met Arg Lys Asn Ile Thr			
1	5	10	15
Ile Gly Thr Thr Leu Arg Arg Ile Ser Leu Ile Leu Phe Cys Leu Leu			
20	25	30	
Pro Leu Lys Gly Ile Cys Gln Thr Gly Glu Ala Thr Val Asp Ala Leu			
35	40	45	
Val Lys Met Gly Phe Glu Asn Val Gly Trp Thr Glu Asp Thr Glu Glu			
50	55	60	
Arg Val Phe Val Ile Gln Asn Ser Ala Tyr Arg Leu Glu Gly Val Gly			
65	70	75	80
Ile Gly Lys Ala Val Asp Leu Ile Gln Lys Met Gly Leu Pro Glu Asn			
85	90	95	
Lys Pro Cys Arg Leu Ile Val Leu Asp Asn Asn Val Pro Gln Ile Ser			
100	105	110	
Leu Tyr Tyr Gln Pro Met Lys Gly Asp Ser Ile Ala Glu Val Ser Arg			
115	120	125	
Ala Asp Trp Ser Val Ser Tyr Asp Leu Gly Glu Gly Trp Lys Gln Ala			
130	135	140	
Arg Arg Ile Lys Lys Gln Asn Ser Ser Leu Phe Lys Val Asp Ile Val			
145	150	155	160
Val Tyr Pro Glu Leu Leu Phe Arg Asn Tyr Ile Leu Ser Lys Val Tyr			
165	170	175	
Glu Ile Val Val Asn Val Ser Pro Ala Ile Glu Val Ser Leu Trp Lys			
180	185	190	
Gly Met Lys Leu Thr Gly Gln Val Ile Phe Pro Ile Tyr Asn Asp Tyr			
195	200	205	
Gly Gln Arg Tyr Lys Gln Ile Arg Pro Gly Phe Val Thr Leu Ser Gln			
210	215	220	
Thr Val Arg Leu Pro Gln Arg Thr Phe Leu Thr Ala Ser Val Gly Phe			
225	230	235	240
Phe Asn Lys Phe Arg Trp Gly Gly Asp Leu Lys Ala Lys His Phe Phe			
245	250	255	
Lys Asp Glu Arg Phe Ser Val Asp Ala Arg Ile Gly Tyr Thr Gly Arg			
260	265	270	
Gly Tyr Phe Glu Asp Trp Ala Phe Tyr His Gly Thr Lys Trp Thr Leu			
275	280	285	
Thr Gly Ser Ile Gly Ala Asn Phe Tyr Trp Pro Lys Tyr Asn Thr Gln			

290	295	300
Phe Ser Leu Lys Gly Glu Arg Tyr Leu Glu Gly Glu Tyr Gly Ala Arg		
305	310	315
Phe Asp Met Ile Arg His Phe Arg Tyr Ala Ser Ile Gly Phe Tyr Gly		
325	330	335
Met Lys Val Gln His Ala Gly Asn Lys Gly Leu Asn Gly Gly Phe Leu		
340	345	350
Phe Gln Ile Ala Leu Pro Pro Tyr Lys Tyr Lys Arg Lys Gly Tyr Ile		
355	360	365
Pro Arg Val Ile Pro Asn Asn Phe Gly Phe Gln Tyr Asn Ala Gly Asn		
370	375	380
Glu Arg Ile Tyr Gly Lys Gly Tyr Ser Pro Gln Ala Ser Asp Asn Val		
385	390	395
Met Glu Asn Asn Ser Phe Asn Pro Tyr Phe Ile Lys Ser Glu Leu Leu		
405	410	415
Asn Phe		

&lt;210&gt; 7621

&lt;211&gt; 253

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7621

Lys Leu Gln Ile Met Met Lys Lys Ile Phe Leu Ile Gly Leu Phe Leu		
1	5	10
Cys Cys His Leu Ala Leu Ser Ala Gln Leu Thr Tyr Gly Thr Thr Gly		
20	25	30
Leu Leu His Ala Pro Ser Ala Glu Met Gln Arg Asp Lys Thr Val Met		
35	40	45
Ile Gly Gly Asn Phe Leu Asn Lys Glu Ile Thr Pro Pro Thr Trp Asp		
50	55	60
Tyr His Thr Tyr Asn Tyr Phe Leu Asn Val Thr Ile Phe Pro Trp Leu		
65	70	75
Glu Ile Ala Tyr Thr Cys Thr Leu Phe Gln Ser Gln Thr Ile Gly Ile		
85	90	95
Asp Trp Lys Val Gly Lys Lys Phe Thr Asn Gln Asp Arg Tyr Phe		
100	105	110
Ser Ala Arg Leu Arg Val Leu Lys Glu Gly Gln Leu Trp Lys Tyr Met		
115	120	125
Pro Ala Val Val Val Gly Thr Ser Asp Pro Tyr Thr Glu Ser Gly Asp		
130	135	140
Gly Gln Val Gly Ser Ala Asp Gly Asn Gly Tyr Phe Cys Arg Phe Tyr		
145	150	155
Val Ala Ala Thr Lys His Ile Pro Ile Gly Lys Glu Lys Ile Gly Val		
165	170	175
His Leu Ser Tyr Leu Tyr Asn Arg Arg Val Asp Tyr His Leu Asn Gly		
180	185	190
Leu Ala Gly Gly Leu Thr Tyr Ala Pro Ser Phe Ala Pro Asp Leu Thr		
195	200	205
Val Ile Ala Glu Tyr Asp Ala Lys Asp Phe Ala Phe Gly Ala Thr Tyr		
210	215	220
Leu Leu Phe Asn His Leu His Ala Gln Val Glu Leu Gln Arg Met Lys		
225	230	235
Tyr Phe Thr Gly Gly Leu Thr Tyr Lys Ile Tyr Leu Lys		
245	250	

&lt;210&gt; 7622

&lt;211&gt; 73

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7622

Lys	Gln	Lys	Ile	Met	Lys	Gly	Leu	Asn	Val	Leu	Ala	Ala	Phe	Leu	Gly
1				5					10					15	
Gly	Ala	Ala	Val	Gly	Ala	Ala	Leu	Gly	Ile	Leu	Phe	Ala	Pro	Glu	Lys
				20					25				30		
Gly	Glu	Asp	Thr	Arg	His	Lys	Ile	Ala	Glu	Ile	Leu	Arg	Lys	Lys	Gly
	35				40					45					
Ile	Lys	Leu	Asn	Arg	Asn	Glu	Met	Glu	Asn	Leu	Val	Asp	Glu	Ile	Ala
	50				55					60					
Ala	Glu	Ile	Lys	Gly	Glu	Val	Ile	Asp							
	65				70										

&lt;210&gt; 7623

<211> 138  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7623

Val	Phe	Glu	Ile	Gln	Asn	Val	Leu	Met	Gln	Gln	Pro	Ala	Arg	Met	Leu
1				5					10				15		
Leu	His	Gln	Glu	Asp	Leu	Leu	Ile	Leu	Val	Gln	Val	Val	His	Val	Val
				20					25				30		
Ala	Leu	Val	Ile	Ile	Val	Thr	Phe	Ile	Arg	Ile	Val	Leu	Gln	Thr	Leu
	35				40					45					
Glu	His	Ile	Gln	Glu	Val	Leu	Val	Gly	Leu	Leu	Leu	Ile	Ile	Leu	Val
	50				55				60						
Glu	Val	Arg	Gln	Gln	His	Leu	Leu	Val	Ile	Gln	Met	Lys	Val	Pro	
	65				70				75			80			
Val	Val	Leu	Met	Ala	Leu	Leu	His	Leu	Leu	Glu	Ala	Ile	Pro	Gln	Val
		85				90				95					
Val	Leu	Leu	Ala	Leu	Val	Val	Val	Ile	Leu	Pro	Val	Ala	Glu	Val	Val
		100				105			110						
Val	Ala	Val	Leu	Val	Arg	Gln	Val	Val	Glu	Val	Ala	Thr	Ala	Glu	Val
		115				120				125					
Ala	Val	Val	Glu	Asp	Lys	Lys	Ile	Val	Asn						
	130				135										

&lt;210&gt; 7624

<211> 390  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 7624

Leu	Phe	Gly	Val	Pro	Ile	Cys	Leu	Leu	His	Ala	Val	Cys	Arg	His	Ile
1				5					10				15		
Asn	Asn	Glu	His	Ile	Ile	Met	Gly	Leu	Leu	Glu	Phe	Asn	Lys	Leu	Pro
				20					25				30		
Ile	Asn	Thr	Leu	Val	Gly	Ala	Asp	Trp	Arg	Thr	Phe	Lys	Ala	Ile	Thr
	35				40					45					
Gly	Gly	Arg	Glu	Ile	Asp	Ala	Ala	Tyr	Thr	Gly	Lys	Tyr	Arg	Leu	Thr
	50				55					60					
Lys	Ala	Val	Cys	Arg	Leu	Leu	Ser	Thr	Leu	Ala	Pro	Leu	Gln	Asp	Lys
	65				70				75				80		
Arg	Tyr	Glu	Lys	Leu	Leu	Ala	Asn	Lys	Pro	Leu	Glu	His	Asp	Pro	Val
		85				90				95					
Phe	Ile	Leu	Gly	His	Trp	Arg	Ser	Gly	Thr	Thr	Phe	Val	His	Asn	Val

100	105	110
Phe Ser Cys Asp Ser His Phe Gly Tyr Asn Thr Thr Tyr Gln Thr Val		
115	120	125
Phe Pro His Leu Met Met Trp Gly Gln Pro Phe Phe Lys Lys Asn Met		
130	135	140
Ser Trp Leu Met Pro Asp Lys Arg Pro Thr Asp Asn Met Glu Leu Ala		
145	150	155
Val Asp Leu Pro Gln Glu Glu Phe Ala Leu Ala Asn Met Met Pro		
165	170	175
Tyr Thr Tyr Tyr Asn Phe Trp Phe Leu Pro Arg Tyr Gln Gln Glu Tyr		
180	185	190
Ala Asp Lys Tyr Leu Leu Phe Asp Thr Ile Ser Glu Ala Glu Leu Lys		
195	200	205
Val Phe Glu Glu Thr Phe Thr Lys Leu Ile Lys Ile Ser Leu Trp Asn		
210	215	220
Thr Gln Gly Thr Gln Phe Leu Ser Lys Asn Pro Pro His Thr Gly Arg		
225	230	235
Val Lys Glu Leu Val Lys Met Phe Pro Asn Ala Lys Phe Ile Tyr Leu		
245	250	255
Met Arg Asn Pro Tyr Thr Val Phe Glu Ser Thr Arg Ser Phe Phe Thr		
260	265	270
Asn Thr Ile Gln Pro Leu Lys Leu Gln Asp Ile Thr Pro Ala Glu Leu		
275	280	285
Glu Asn Asn Ile Leu Ser Ile Tyr Ala Lys Leu Tyr His Lys Tyr Glu		
290	295	300
Ala Asp Lys Gln Phe Ile Pro Glu Gly Asn Leu Met Glu Val Lys Phe		
305	310	315
Glu Asp Phe Glu Ala Asp Ala Met Gly Met Thr Glu Asn Ile Tyr His		
325	330	335
Ala Leu Asp Ile Pro Gly Phe Ala Glu Ala Arg Gly Ser Ile Glu Lys		
340	345	350
Tyr Val Gly Gly Lys Lys Gly Tyr Lys Lys Asn Lys Tyr Lys Tyr Asp		
355	360	365
Asp Arg Thr Val Gln Leu Val Gln Asp His Trp Asp Phe Ala Leu Lys		
370	375	380
Gln Trp Asp Tyr Ser Leu		
385	390	

&lt;210&gt; 7625

&lt;211&gt; 269

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7625

Thr Ser Ala Val Leu Thr Lys Leu Lys Lys Val Leu Ser Val Val Asn		
1	5	10
15		
Thr Thr Val Leu Gln Pro Glu Leu Val Phe Val Thr Pro Met Glu Val		
20	25	30
25		
Lys Phe Thr Pro Ala Val Val Ala Gln Gly Glu Thr Pro Glu Val		
35	40	45
40		
Ala Leu Ala Thr Leu Tyr Phe Asn Glu Lys Thr Asn Thr Trp Glu Ala		
50	55	60
55		
Glu Glu Asn Tyr Ala Thr Tyr Gln Asn Gly Val Phe Val Gly Asn Val		
65	70	75
70		
80		
His His Phe Ser Lys Phe Lys Phe Gly Phe Glu Glu Ala Asp Ser Lys		
85	90	95
90		
Ala Thr Ala Glu Ala Ala Leu Asp Ser Met Lys Phe Asp Lys Ala Cys		
100	105	110
105		
Tyr Thr Glu Gly Glu Thr Ala Lys Val Lys Met Glu Ile Asn Trp Lys		

115	120	125
Gly Gly Ile Lys Cys Glu	Gly Ala Ser Val Glu	Glu Ile Ile Lys
130	135	140
Lys Ala His Ser Thr Leu	Thr Thr Thr Ile Lys Met Val Ser Ala	
145	150	155
Ala Leu Glu Glu Ala Ile	Lys Asp Asp Asn Ala Asn Val Thr Pro Gly	160
165	170	175
Ala Ala Phe Thr Asp Lys Lys	Phe Thr Tyr Glu Leu Glu Val Pro Ala	
180	185	190
Tyr Thr Gln Leu Thr Gly	Phe Asp Val Thr Arg Asn Val Ile Lys Thr	
195	200	205
Thr Tyr Val Leu Pro Phe Ala	Val Tyr Asn Lys Ala Thr Lys Ala Ile	
210	215	220
Glu Lys Lys Thr Ala Glu Val	Thr Ile Ser Lys Ile Ser Ser Val Val	
225	230	235
Val Arg Thr Ile Glu Ala Ile	Gly His Gly His Gly His Gly	240
245	250	255
Asp Asp Leu Asn Ala Gly	Gly Ile Ile Ile Ser Glu	
260	265	

&lt;210&gt; 7626

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7626

Ile Ala Leu Val Lys Val Gln Val Phe	Ser Tyr Ser Lys Thr Ile Lys		
1	5	10	15
Leu Tyr Ile Ile Lys Ser Val Lys	Asp Tyr Ser Asn Glu Ile Pro Ser		
20	25	30	
Lys Thr Gly Phe His Lys Ile Ile Ser Pro	Tyr Phe Ser Lys Leu Lys		
35	40	45	
Phe Lys Tyr Ser Asn Asn Thr Thr Gln Lys Lys	Lys Thr Tyr Leu Asn		
50	55	60	

&lt;210&gt; 7627

&lt;211&gt; 257

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7627

Lys Lys Glu Val Met Thr Lys Glu Glu	Ile Ile Lys Pro Glu Asn Leu		
1	5	10	15
Val Tyr Lys Lys Pro Thr Leu Met Asn	Asp Asn Gly Met His Tyr Cys		
20	25	30	
Pro Gly Cys Ser His Gly Val Val His	Lys Leu Ile Ala Glu Val Ile		
35	40	45	
Glu Glu Met Gly Leu Glu Asp Lys Ala	Val Gly Ile Ser Pro Val Gly		
50	55	60	
Cys Ala Val Phe Ile Tyr Asn Tyr	Leu Asp Ile Asp Trp Gln Glu Ala		
65	70	75	80
Ala His Gly Arg Ala Pro Ala Leu	Ala Thr Ala Ile Lys Arg Leu Trp		
85	90	95	
Pro Asp Arg Leu Val Phe Thr Tyr	Gln Gly Asp Gly Asp Leu Ala Cys		
100	105	110	
Ile Gly Thr Ala Glu Thr Ile His	Ala Leu Asn Arg Gly Glu Asn Ile		
115	120	125	
Thr Ile Ile Phe Ile Asn Asn Ala	Ile Tyr Gly Met Thr Gly Gly Gln		
130	135	140	

Met Ala Pro Thr Thr Leu Met Gly Met Lys Thr Ala Thr Cys Pro Tyr  
 145 150 155 160  
 Gly Arg Asp Pro Glu Leu His Gly Tyr Pro Leu Lys Ile Thr Glu Ile  
 165 170 175  
 Ala Ala Gln Leu Glu Gly Thr Ala Tyr Val Thr Arg Gln Ser Val Gln  
 180 185 190  
 Ser Val Pro Ala Ile Arg Lys Ala Lys Lys Ala Ile Arg Lys Ala Phe  
 195 200 205  
 Glu Asn Ser Met Asn Gly Lys Gly Ser Asn Leu Val Glu Ile Val Ser  
 210 215 220  
 Thr Cys Ser Ser Gly Trp Lys Met Thr Pro Glu Lys Ala Asn Lys Trp  
 225 230 235 240  
 Met Glu Glu His Met Phe Pro Phe Tyr Pro Leu Gly Asp Leu Lys Asp  
 245 250 255  
 Lys

&lt;210&gt; 7628

&lt;211&gt; 410

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7628

Lys Ser Phe Phe Met Asp Phe Cys Tyr Leu Phe Val Thr Tyr Asn Arg  
 1 5 10 15  
 Ile Met Ser Ile Phe Ile Thr Lys Asn Ile Gln Thr Asn Asn Met Lys  
 20 25 30  
 Lys Glu Val Arg Ile Lys Glu Pro Val Arg Ile Arg Thr Lys Arg Leu  
 35 40 45  
 Ser Asn Gly Cys Glu Ser Ile Tyr Leu Asp Ile Tyr Met Asp Gly Arg  
 50 55 60  
 Arg Arg Tyr Glu Phe Leu Lys Leu Tyr Ile Ile Pro Glu His Thr Arg  
 65 70 75 80  
 Thr Asp Lys Asp Leu Asn Gln Ser Thr Met Lys Leu Ala Ser Ala Val  
 85 90 95  
 Lys Ala Gln Arg Ile Ile Glu Leu Gln Asn Gly Val Tyr Gly Phe Asn  
 100 105 110  
 His Gln Gln Glu Lys Lys Asp Ile Met Leu Ile Asp Tyr Ile Lys Tyr  
 115 120 125  
 Leu Ala Asp Lys Asp Ile Glu Lys Thr Ser Arg Lys Val Ser Met Tyr  
 130 135 140  
 Thr Leu Ile Tyr His Leu Gln His Tyr Asp Lys Met Gly Ile Arg Leu  
 145 150 155 160  
 Arg Gln Val Asp Lys Lys Tyr Ile Leu Gly Phe Val Glu Tyr Leu Lys  
 165 170 175  
 Thr Ala Thr Gln Lys His Cys Lys Ser Val Lys Asn Ile Ser Ala Asn  
 180 185 190  
 Thr Gln Val His Tyr Tyr Lys Val Phe His His Cys Leu Asn Ser Ala  
 195 200 205  
 Val Ile Asp Glu Ile Ile Thr Ser Asn Pro Met Asp Lys Ile Lys Asn  
 210 215 220  
 Glu Glu Lys Pro Lys Arg Arg Arg Thr Glu Arg Ala Phe Leu Thr Ile  
 225 230 235 240  
 Asp Glu Leu Lys Ile Leu Ser Gln Thr Asp Phe His Asn Ala Thr Leu  
 245 250 255  
 Lys Lys Ala Phe Leu Phe Ser Cys Phe Cys Gly Leu Arg His Ser Asp  
 260 265 270  
 Ile Val Ala Leu Thr Trp Gly Asn Leu Lys Lys Gly Lys Val Gly Lys  
 275 280 285

Met Glu Leu His Met Thr Gln Gln Lys Thr Gln Glu Ile Leu Ser Leu  
 290 295 300  
 Pro Leu Ser Lys Glu Ala Leu Lys Gln Leu Pro Val Arg Gly Lys Val  
 305 310 315 320  
 Pro Asp Thr Glu Lys Val Phe Lys Gly Leu Ile Ser Leu Gly Arg Thr  
 325 330 335  
 Asn Glu Ile Leu Pro Lys Trp Ala Ala Lys Ala Gly Ile Gln Lys His  
 340 345 350  
 Ile Thr Phe His Ser Ala Arg His Thr His Ala Thr Met Met Ile Thr  
 355 360 365  
 Leu Gly Ala Asp Leu Tyr Thr Val Ser Lys Leu Leu Gly His Thr Asn  
 370 375 380  
 Ile Gln Thr Thr Gln Ile Tyr Ala Lys Ile Val Asp Glu Ser Lys Glu  
 385 390 395 400  
 Lys Ala Ile Asp Leu Ile Pro Asp Ile Thr  
 405 410

&lt;210&gt; 7629

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7629

Ile Ala Leu Ser His Asn Tyr Glu Thr Arg Tyr Ile Val Thr Asp Leu  
 1 5 10 15  
 Thr Val Asn Ser Ile Gln Glu Phe Lys Asn Gly Tyr Ile Ile Lys Arg  
 20 25 30  
 Ala Asp Thr Ser Tyr Leu Asn Ser Lys Leu Arg Asn Glu Lys Ile Arg  
 35 40 45  
 Ser Asp Thr Ile Arg Ile Arg Leu Ser Phe Val Arg Ala Ile Met Arg  
 50 55 60  
 Phe Thr Leu Gln Cys Arg Phe Ile Thr Tyr Val Thr Tyr Pro Phe Ala  
 65 70 75 80  
 Ser Tyr Lys

&lt;210&gt; 7630

&lt;211&gt; 283

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7630

His Met Asp Ser Phe Phe Gln Thr Leu Ala Phe Thr Tyr Leu Leu Tyr  
 1 5 10 15  
 Pro Ile Leu Gly Leu Leu Leu Val Gly Leu Gly Ile Phe Ile Ala Lys  
 20 25 30  
 Lys Asn Ala Leu Leu Asn Asn Lys Arg Leu Val Gly Tyr Thr Ile Gly  
 35 40 45  
 Ala Ile Val Leu Leu Thr Leu Pro Ala Leu Leu Gly Phe Leu Asp Tyr  
 50 55 60  
 Gly Phe Met Pro Tyr Gly Tyr Ile Phe Leu Ala Met Leu Tyr Leu Leu  
 65 70 75 80  
 Leu Gly Gly Tyr Asn Ile Arg Met Ile Ala Trp Val Tyr Lys Asp Asp  
 85 90 95  
 Tyr Lys Tyr Arg His Glu Ile Ile Leu Thr Gly Phe Ile Leu Val Val  
 100 105 110  
 Ser Met Leu Phe Phe Thr Leu Val Phe Asn Leu Cys Asn Glu Leu Lys  
 115 120 125  
 Tyr Gly Leu Trp Ala Ser Ala Cys Leu Leu Pro Phe Val Ile Val Ser

130	135	140
Val Phe Ile Arg Thr Tyr Arg Ile Phe Ile Ala Ile Pro Ile Pro Val		
145	150	155
Tyr Glu Val Trp Arg Tyr Thr Asp Asp Thr Glu Gln Asp Gly Tyr Phe		160
165	170	175
Asp Pro Gly Ser Leu Gln Val Leu Gln Ile Glu Leu Tyr Lys Gln Glu		
180	185	190
Ser Asp Arg Glu Pro Val Lys Leu Ser Val Lys Ala Pro Asp Glu Met		
195	200	205
Gln Phe Gly Thr Trp Phe His Arg Met Ile Asp Asp Tyr Asn Leu Lys		
210	215	220
Ser Pro Gln Ala Pro Ile Asp Asp Tyr Ala Ala Lys Glu Gly Gly Trp		
225	230	235
Ile Phe Tyr Arg Lys Pro Thr Leu Leu Ser Pro Arg His Tyr Ile Asp		240
245	250	255
Phe Asn Leu Thr Val Lys Asp Asn Arg Ile Arg Ser Arg Asp Val Ile		
260	265	270
Val Ala Lys Arg Val Met Glu His Asn Glu Asn		
275	280	

&lt;210&gt; 7631

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7631

Ala Glu Arg Leu Arg Ser Pro Arg Lys Trp Ala Gln Glu Pro His Ser		
1	5	10
Pro Ser Gly Cys Leu Leu Arg Met Ser Tyr Lys Ile Arg Lys Arg Glu		15
20	25	30
Arg Thr Ala Thr Cys Pro Gly Glu Ala Val Gly Thr Gln Pro Ser Glu		
35	40	45
Val Leu Pro Ala Lys Glu Glu Thr Thr Glu Lys Glu Glu Asp Leu Arg		
50	55	60
Ala Thr Ala Ala Gly Thr Glu Lys Ala Thr Ile Leu Ile Ala Glu Asp		
65	70	75
Thr Asp Ser Asn Phe Asp Leu Leu Asn Ala Ile Leu Gly Arg Lys Tyr		80
85	90	95
Arg Leu Val Arg Ala Arg Asp Gly Met Glu Ala Val Thr Met Tyr Asp		
100	105	110
Glu Val Asn Pro Asp Leu Ile Leu Met Asp Ile Lys Met Pro Asn Leu		
115	120	125
Asp Gly Leu Glu Ala Thr Arg Ile Ile Arg Gln Leu Ser Ala Glu Val		
130	135	140
Pro Ile Ile Ala Gln Ser Ala Tyr Ala Tyr Glu His Asp Arg Asn Ala		
145	150	155
Ala Glu Glu Ala Gly Cys Asn Asp Phe Ile Ser Lys Pro Ile Ala Gln		160
165	170	175
Glu Lys Leu Lys Glu Lys Ile Lys Lys Trp Leu Lys		
180	185	

&lt;210&gt; 7632

&lt;211&gt; 66

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7632

Ser Asn Leu Leu Val Ile Cys Gly Asn Gly Lys Leu Val Tyr Leu Trp		
1	5	10
		15

<210> 7633  
<211> 742  
<212> PRT  
<213> B.fragil

<400> 7633  
 Lys Leu Cys Pro Met Asp Tyr Val Leu Tyr Leu Leu Arg Ala Leu Tyr  
 1 5 10 15  
 Arg Val Lys Trp Trp Ile Leu Leu Gly Thr Ala Leu Ile Thr Ala Ile  
 20 25 30  
 Val Tyr Phe Arg Thr Gly Asn Leu Arg Gly Gly Tyr Asn Val Glu Ala  
 35 40 45  
 Thr Leu Tyr Thr Gly Val Val Ser Gly Tyr Gly Val Glu Glu Ser Thr  
 50 55 60  
 Lys Val Asp Trp Ala Leu Ala Gln Asn Ser Met Asp Asn Leu Ile Asn  
 65 70 75 80  
 Ile Ile Gln Ala Glu Ser Thr Leu Lys Arg Val Ser Leu Arg Leu Phe  
 85 90 95  
 Ser Arg Ile Leu Val Lys Gly Ser Pro Asp Lys Asp Asn Glu Gly Ile  
 100 105 110  
 Thr Ala Ala Ser Tyr Asn Tyr Thr Tyr Asn His Met Lys Asn Ser Pro  
 115 120 125  
 Asp Gly Lys Ala Leu Ile Ala Leu Ile Asp Arg Thr Ser Glu Asp Lys  
 130 135 140  
 Thr Met Glu Asn Phe Gln Lys Tyr Glu Arg Gln Asp Lys Asn Asn Tyr  
 145 150 155 160  
 Ile Tyr Gly Leu Phe Tyr Phe Gln His Val Tyr Tyr Ser Tyr Gln Ala  
 165 170 175  
 Leu Lys Asn Ile Lys Val Glu Arg Lys Gly Ser Ser Asp Leu Leu Lys  
 180 185 190  
 Val Ser Tyr Gln Ser Gly Asp Pro Gly Ile Ala Tyr Asn Thr Ile Glu  
 195 200 205  
 Ile Leu Met Lys Glu Phe Val Asn Glu Tyr Gln Ala Leu Arg Tyr Glu  
 210 215 220  
 Gly Thr Asp Lys Val Ile Glu Tyr Phe Lys Ala Glu Leu Lys Arg Ile  
 225 230 235 240  
 Gly Gly Asp Leu Thr Lys Tyr Glu Asp Asp Leu Thr Gln Tyr Asn Val  
 245 250 255  
 Glu Asn Arg Ile Ile Asn Tyr Tyr Asp Glu Thr Lys Glu Ile Ala Ala  
 260 265 270  
 Ile Asn Lys Glu Phe Glu Leu Arg Glu Gln Asn Val Leu Phe Glu Tyr  
 275 280 285  
 Asn Ser Ser Arg Ala Met Leu Glu Glu Leu Glu Arg Gln Met Asp Ala  
 290 295 300  
 Asn Ser Lys Arg Ile Ile His Asn Val Glu Leu Val Asp Lys Leu Lys  
 305 310 315 320  
 Gln Ala Thr Asn Leu Thr Gly Lys Ile Ile Glu Met Glu Thr Ile Ser  
 325 330 335  
 Thr Ala Gly Asp Ser Thr Gly Met Lys Leu Thr Glu Tyr Lys Asn Arg  
 340 345 350

Leu Ile Gln Ser Arg Arg Asp Leu Ser Thr Ile Ala Asn Gln Tyr Val  
     355                     360                     365  
 Ala Gly Gln Gln Thr Lys Glu Gly Val Ala Lys Ala Thr Ile Val Glu  
     370                     375                     380  
 Gln Trp Leu Asp Gln Leu Leu Phe Glu Lys Ala Lys Ala Glu Leu  
     385                     390                     395                     400  
 Lys Ile Val Gln Arg Ser Arg Ser Asp Leu Asn Ala Lys Tyr Thr His  
     405                     410                     415  
 Phe Ala Pro Val Gly Thr Thr Ile Lys Arg Lys Glu Arg Thr Ile Ser  
     420                     425                     430  
 Phe Thr Glu Gln Asn Tyr Leu Thr Asn Leu Lys Ser Tyr Asn Asp Ala  
     435                     440                     445  
 Leu Leu Arg Lys Lys Asn Leu Glu Met Thr Ala Ala Ile Leu Lys Val  
     450                     455                     460  
 Leu Asn Pro Pro Ala Tyr Pro Ile Asn Glu Glu Val Ala Ser Arg Lys  
     465                     470                     475                     480  
 Lys Ile Val Met Met Ala Ala Ala Gly Ser Phe Ile Phe Phe Val Ala  
     485                     490                     495  
 Leu Phe Leu Leu Ile Glu Ala Ile Asp Arg Thr Leu Arg Asp Ser Thr  
     500                     505                     510  
 Arg Thr Arg Lys Gln Thr Gly Ser Ile Val Leu Gly Ala Tyr Pro Ala  
     515                     520                     525  
 Pro Leu Lys Leu Ser Pro Ile Ser Lys Gln Cys Glu Glu Ile Ala Thr  
     530                     535                     540  
 Arg Tyr Met Ser Ser Ala Ile Leu Arg Phe Phe Thr Glu Arg Lys Glu  
     545                     550                     555                     560  
 Gly Met Pro Phe Ile Leu Asn Leu Leu Ser Thr Glu Gln Gly Ser Gly  
     565                     570                     575  
 Lys Thr Tyr Leu Ala Glu Gln Leu Gln Gly Tyr Trp Glu Ser Ile Gly  
     580                     585                     590  
 Leu Lys Val Arg Arg Leu Thr Asp Gly Thr Asp Phe Asn Ser Asn Ser  
     595                     600                     605  
 Ser Ala Phe Thr Leu Ala Lys Asn Leu Thr Asp Leu Tyr Thr Pro Gly  
     610                     615                     620  
 Thr Glu Asp Ile Leu Ile Val Glu Tyr Pro Ser Leu Glu Lys Ala Asn  
     625                     630                     635                     640  
 Ile Pro Thr Pro Leu Leu Gln Asp Ala Gln Leu Asn Leu Leu Val Ala  
     645                     650                     655  
 Ser Ala Val His Gly Trp Lys Ala Thr Asp Lys Val Leu Leu Gln Lys  
     660                     665                     670  
 Leu Lys Ser Gln Leu Gly Thr Ser Pro Tyr Leu Tyr Leu Asn Arg Ala  
     675                     680                     685  
 Pro Lys Tyr Glu Val Glu Thr Tyr Thr Gly Met Leu Pro Pro Tyr Thr  
     690                     695                     700  
 Phe Val His Lys Gln Met Tyr Arg Leu Ser Gln Leu Ala Leu Thr Glu  
     705                     710                     715                     720  
 Ser Leu Phe Asn Trp Lys Lys Asn Ser Arg Lys Lys Pro Gln Asp Ile  
     725                     730                     735  
 Asp Asp Asp Asp Asp Glu  
     740

&lt;210&gt; 7634

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7634

Met Val Thr Thr Arg Ile Leu Lys Ile Pro Phe His Pro Lys Ala Ile		
1	5	10
		15

His Gly Ile Tyr Gly Val Asn Tyr Tyr Phe His Lys Lys Asp Ala Leu  
 20 25 30  
 Pro Gln Arg Leu Gln Phe Glu Ala Thr Val Glu Tyr Cys Gly Gln Tyr  
 35 40 45  
 Met Asp Glu Tyr Ser Ile Tyr His Ile Ser Lys Lys Glu Tyr Val Val  
 50 55 60  
 Asn Arg Asn Glu Thr Asp Glu Tyr Leu Tyr Asp Ile Ala Lys Lys Cys  
 65 70 75 80  
 Ala Asp Ile Ile Tyr Pro Ile Thr Val Leu Leu Asp Arg Asn Gly His  
 85 90 95  
 Pro Val Phe Ile Arg Thr Asp Asp Ile Val Glu Arg Trp Ser Glu Lys  
 100 105 110  
 Arg His Glu Leu Asp Arg Tyr Tyr Lys Gly Asp Thr Ala Glu Tyr Tyr  
 115 120 125  
 Leu Ser Lys Val Glu Glu Ala Val Asn Asp Pro Val Lys Met Met Gln  
 130 135 140  
 Leu Ile Ser Asn Asp Leu Phe Phe Ser Gln Leu Phe Thr Phe Gln Tyr  
 145 150 155 160  
 Tyr Asn Thr Val Lys Phe Glu Asn Asp Ile Met Leu Ile Pro Phe Ser  
 165 170 175  
 Ile Pro Leu Arg Phe Ser Ser Ile Gln Glu Met Asp Ile Asp Ser Phe  
 180 185 190  
 Ser Asp Ser Glu Ser Asp Thr Ile His Ile Ile His Lys Gly Ser Thr  
 195 200 205  
 Lys Asn Gln Tyr Lys Asn Gly Asp Phe Tyr Gly Ser Ser Glu Met Asn  
 210 215 220  
 Ala Ser Gln Tyr Asn Ala Ile Leu Ser Ala Lys Tyr Arg Ile Arg Tyr  
 225 230 235 240  
 Ser Leu Gly Lys Glu Arg His Asp Phe Glu Ala Ile Glu Gly Asp Phe  
 245 250 255  
 Val Val Ser Lys Glu Glu Glu Asp Val Asn Ser Ile Lys Met Glu Ala  
 260 265 270  
 Tyr Lys Leu Asp Glu Lys Val Leu Glu Tyr Gly Phe Asp Lys Glu Leu  
 275 280 285  
 Glu Lys Arg Glu Arg Glu Gln Lys Arg Ile Asp Asn Ser Leu Met Asn  
 290 295 300  
 Lys Leu Lys Arg Tyr Phe Lys Thr  
 305 310

&lt;210&gt; 7635

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7635

Asn Asp Asn Thr Met Ala Ile Tyr Ser Leu His Glu Met Ala Gly Leu  
 1 5 10 15  
 Leu Lys Thr Gly Leu Trp Gln Gly Gly Glu Val Glu Lys Leu Gly Tyr  
 20 25 30  
 Ile Gly Thr Ala Val Pro His Ala Ser Pro Ala Pro Ala Cys Gly Leu  
 35 40 45  
 Thr Gly Val Tyr Ile Ser Tyr Asp Thr Met Leu Glu Arg Cys Glu Val  
 50 55 60  
 Ser Met Gln Gly Gly Cys Glu Leu Phe Ile Ser Gln Tyr His Pro  
 65 70 75 80  
 Tyr Thr Gly Thr Tyr Met Thr Tyr Val Leu Glu Ser Asn Leu Ser Asp  
 85 90 95  
 Arg Arg Leu Leu Leu Ala Lys Leu Glu Glu Ile Leu Ala Asp Arg Arg  
 100 105 110

Asn Pro Tyr Leu Trp Ser His Asn Leu Tyr Lys Arg Asn Ser Phe Gly  
 115 120 125  
 Ile Glu Arg Arg Tyr Asp Thr Gly His Ser Ser Met Trp Gly Gly Arg  
 130 135 140  
 Ile Ala Val Pro Arg Gln Ser Lys Phe Phe Gly Arg  
 145 150 155

<210> 7636

<211> 428

<212> PRT

<213> B.fragilis

<400> 7636

Arg Ile Asn Thr Lys Met Lys Glu Asn Ile Ser Arg Phe Lys Ile Asp  
 1 5 10 15  
 Tyr Ser Val Cys Lys Asn Ser Pro Gly Gly Ser Ile Leu Glu Lys Val  
 20 25 30  
 Ser Asn Phe Gln Lys Glu Leu Gln Leu His Glu Glu Asn Ser Leu His  
 35 40 45  
 Ile Tyr Val Lys Ser Pro Met Val Ser Gly Cys Gly Arg Glu Val Glu  
 50 55 60  
 Val Val Asp Arg Lys Thr Asn Glu Val Lys Lys Met Leu Met Phe Gly  
 65 70 75 80  
 Ser Asn Ser Tyr Leu Asp Ala Thr Gly Ile Pro Ser Val Val Glu Lys  
 85 90 95  
 Ala Val Arg Val Ile Thr Asp Tyr Gly Val Gly Ser Gly Gly Val Pro  
 100 105 110  
 Leu Leu Ser Gly Thr Thr Ile Phe Gln Asn Glu Leu Glu Lys Glu Ile  
 115 120 125  
 Ala Lys Leu Thr Gly Phe Asp Asp Thr Ile Leu Phe Ser Ser Gly Phe  
 130 135 140  
 Thr Ala Asn Ile Gly Val Ile Val Gly Leu Ile Arg Pro Asn Asn Leu  
 145 150 155 160  
 Leu Val Tyr Asp Arg Leu Asn His Ala Ser Leu Ile Asp Gly Ala Leu  
 165 170 175  
 Met Ser Gly Ala Lys Met Val Arg Tyr Lys His Asn Asp Pro Lys Ala  
 180 185 190  
 Leu Glu Lys Ile Leu Lys Glu Asn Ala Gly Gln Tyr Lys Asp Gly Met  
 195 200 205  
 Met Val Val Thr Asp Gly Val Phe Ser Met Asp Gly Asp Ile Ala Asp  
 210 215 220  
 Ile Pro Ala Ile Leu Glu Ile Thr Lys Lys Tyr Asn Ala Leu Leu Leu  
 225 230 235 240  
 Ile Asp Asp Ala His Ala Thr Gly Val Ile Gly Gly Asp Gly Ala Gly  
 245 250 255  
 Thr Leu Ser Tyr Tyr Asp Ile Lys Glu Arg Glu Asn Ile Ile Val Thr  
 260 265 270  
 Gly Thr Leu Ser Lys Ala Ile Gly Ser Ile Gly Gly Phe Ile Thr Ala  
 275 280 285  
 Lys Gln Asn Ile Ile Asp Tyr Leu Arg Val Tyr Ala Arg Ser Asn Met  
 290 295 300  
 Tyr Ser Thr Ser Leu Pro Gln Ser Ile Cys Ala Ala Ser Leu Glu Val  
 305 310 315 320  
 Ile Lys Glu Met Arg Asn Thr Asp Ile Gln Asn Ala Leu Lys Arg Asn  
 325 330 335  
 Ala Glu Tyr Val Arg Asn Gly Leu Lys Ala Leu Gly Phe Asn Thr Leu  
 340 345 350  
 Asn Ser Met Thr Pro Ile Ile Pro Val Ile Val Gly Asp Glu Tyr Ile  
 355 360 365

Leu Thr Gln Ile Thr Lys Glu Leu Tyr Asp Arg Asp Ile Phe Thr Asn  
 370 375 380  
 Ala Ile Phe Pro Pro Val Val Pro Pro Asn Met Cys Arg Ile Arg Ile  
 385 390 395 400  
 Gly Val Met Ser Ser His Thr Phe Glu Asp Cys Asp Arg Leu Ile Asn  
 405 410 415  
 Ala Phe His Glu Ile Gly Lys Lys Tyr Gly Leu Ile  
 420 425

&lt;210&gt; 7637

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7637

Asn Glu Asp Thr Met Phe Gly His Lys Ser Phe Leu Arg Ile Gly Ala  
 1 5 10 15  
 Leu Gly Asp Ser Ser Ile Ser Gly Leu Tyr Lys Asp Ser Tyr Glu Leu  
 20 25 30  
 Glu Asn Cys His Phe Ser Phe Asn Gln Gly Thr Asn Thr Asp Gly Lys  
 35 40 45  
 Pro Gln Thr Asp Val Arg Gly Gly Thr Leu Tyr Leu Thr Tyr Ala Gly  
 50 55 60  
 Leu Pro Gln Asp Asp Met Leu Arg Trp Ile Leu Asn Pro Lys Lys Tyr  
 65 70 75 80  
 Glu Asp Gly Ala Ile Val Ile Cys Asp Asp Ser Asp Glu Pro Leu Glu  
 85 90 95  
 Lys Ile Leu Phe Glu Gln Ala Ala Cys Thr Gly Leu Asn Ile Glu Tyr  
 100 105 110  
 Thr Gln Lys Gly Lys Ala Tyr Ile His Thr Lys Ile Ile Leu Gln Ala  
 115 120 125  
 Arg Lys Ile Lys Val Gly Glu Thr Thr Phe Glu Asn Arg Trp Thr Ile  
 130 135 140  
 Asn Glu  
 145

&lt;210&gt; 7638

&lt;211&gt; 605

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7638

Asn Ile Leu Thr Met Ala Ser Thr Asn Leu Asp Ala Val Ser Val Glu  
 1 5 10 15  
 Ile Lys Val Ala Gly Lys Val Cys Asp Tyr Val Thr Met Glu Leu Phe  
 20 25 30  
 Gln Ser Val Ser Thr His His Arg Phe Lys Ile Lys Val Asn Tyr Arg  
 35 40 45  
 Pro Asp Lys Pro Ser Val Trp Ala Ile Gly Pro Asp Val Ile Phe Lys  
 50 55 60  
 Gln Leu Gly Glu Lys Val Ser Ile Ile Met Thr His His Glu Ser Gly  
 65 70 75 80  
 Glu Lys Thr Glu Phe His Gly Leu Ile Ser Asp Ile His Val Glu Gly  
 85 90 95  
 Phe Asp Gly Asn Gln Gly Phe Val Ile Leu Glu Gly Ser Pro Thr  
 100 105 110  
 Ile Leu Leu Asp Arg Asp Pro Ala Met Asp Cys Tyr Val Glu Gln Asn  
 115 120 125  
 Leu Asn Thr Ile Val Ser Asp Ile Leu Asp Lys Ser Gly Val Lys Met

130	135	140
Asn Val Thr Asn Asn Pro Lys His Thr Asp Ile Ile Pro Tyr Val Ala		
145	150	155
Arg Tyr Lys Glu Thr Ser Tyr Gly Phe Leu Ser Arg Leu Leu Arg Ser		160
165	170	175
Tyr Gly Glu Trp Phe Tyr Tyr Asn Gly Glu Thr Leu Gln Ile Gly Asp		
180	185	190
Pro Glu Ile Glu Thr Glu Ser Arg Ala Gly Tyr Asp Val Asp Leu Thr		
195	200	205
Gly Val Ser Ile Asn Ala Thr Ile Arg Ser Leu Asn His Ser Thr Tyr		
210	215	220
Glu Phe Asp Pro Val Asn Asp Lys Phe Tyr Tyr Asp Tyr Ser Gly Thr		
225	230	235
Pro Lys Gly Ala Thr Leu Gly Ser Arg Ser Ala Glu Lys Cys Ser Glu		240
245	250	255
Pro Ile Phe Pro Thr Glu Ala Lys Leu Pro Ser Ile Arg Pro Ala Tyr		
260	265	270
Ser Ala Met Asp Leu Glu His Tyr Gly Asp Ala Gly Phe His Arg Asn		
275	280	285
Tyr Ser Gln Leu Ser Gln Ile Lys Ala Ser Ser Arg Tyr Cys Gly Ile		
290	295	300
Arg Leu Gly Glu Leu Val Val Thr Arg Val Pro Glu Ser Phe Pro Gly		
305	310	315
Val Lys Ile Thr Asp Leu Gly Arg Tyr Arg Ile Thr Glu Ile Thr His		
325	330	335
Thr Val Asp Ser Arg Gly Arg Tyr Ser Asn Thr Phe Cys Gly Val Pro		
340	345	350
Gly Gly Thr Pro Val Met Pro Trp Gly Asp Ala Val Met Pro Val Ala		
355	360	365
Tyr Pro Glu Met Ala Arg Val Val Ser Asn Asp Asp Pro Lys Asn Gln		
370	375	380
Gly Arg Val Lys Val Gln Phe Met Trp Gln Glu Val Asp Gly Gly Glu		
385	390	395
Ser Tyr Trp Met Arg Val Gln Ser Pro Asp Ala Gly Lys Ser Asp Lys		
405	410	415
Val Ala Lys Asn Arg Gly Phe Val Phe Ile Pro Glu Pro Gly Asp Leu		
420	425	430
Val Met Val Gly Phe Glu Gln Gly Asn Pro Asp Arg Pro Tyr Val Thr		
435	440	445
Gly Ser Leu Phe Tyr Lys Ala Asn Ser Glu Gly Ala Ala Thr Asp Asn		
450	455	460
Ser Val Lys Ser Ile Arg Thr Arg Ser Gly His Ile Leu Glu Phe Asn		
465	470	475
Asp Asp Glu Gly Gly Asp Trp Gly Ile Thr Ile Lys Asp Arg Asn Gly		
485	490	495
Cys Met Phe His Leu Asp Thr Lys Gly Glu Glu Ile Leu Ile Ser Ala		
500	505	510
Pro Gln Lys Ile Thr Ile Asp Ala Lys Asp Ile Val Ile Ser Ala Asn		
515	520	525
Asn Gln Ile Asn Met Val Ala Asp Lys Gly Ile Leu Ala Asn Gly Arg		
530	535	540
Glu Asn Ile Ser Phe Val Thr Lys Thr Met Gln Thr Asp Val Glu Asn		
545	550	555
Asp Cys Val Leu Ser Ala Lys Glu Phe Thr Gly Ile Thr Glu Lys Thr		
565	570	575
Glu Ile Gln Ser Thr Lys Glu Asn Leu Val Leu Ser Ser Gly Lys Glu		
580	585	590
Val Ile Asn Lys Ser Lys Ser Lys Lys Ile Arg Leu Ser		
595	600	605

<210> 7639  
<211> 143  
<212> PRT  
<213> B.fragilis

<400> 7639  
Lys Gln Ile Thr Met Gly Phe Phe Asp Arg Leu Phe Lys Gly Lys Glu  
1               5               10               15  
Val Phe Ala Asp Arg Arg Asn Pro Asp Met Val Cys Glu Ile Thr Leu  
20              25              30  
Cys Gly Gln Ser His Ile Leu Ser Glu Phe Asp Ile Ala Tyr Glu Pro  
35              40              45  
Asp Asn Ser Ser Lys Glu Tyr Met Glu Ala Tyr Ala Val Phe Ser Glu  
50              55              60  
Pro Val Asn Ala Glu Val Asn Trp Ile Met Arg Ala Asp Arg Lys  
65              70              75              80  
Glu Asn Gly Thr Val Arg Phe Tyr Leu Asn Ser Asp Ala Met Asp Glu  
85              90              95  
Gly Ala Leu Phe Glu Ile Asn Phe Ser Asn Ala Ser Cys Val His Tyr  
100             105             110  
His Asn Val Ser Gln Gly Asp Thr Ser Val Lys Thr Ile Val Met Thr  
115             120             125  
Phe Pro Ser Val Arg Met Gly Gly Asp Glu Phe Glu Leu Lys Arg  
130             135             140

<210> 7640  
<211> 290  
<212> PRT  
<213> B.fragilis

<400> 7640  
Val Asn Thr Thr Lys Gln Thr Thr Ser Met Glu Trp Tyr Thr Lys Tyr  
1               5               10               15  
Leu Ser Ile Phe Gly Leu Thr Leu Ser Glu Ile Pro Gly Asp Thr Leu  
20              25              30  
Ser Glu Ile Gly Thr Leu Leu His Glu Lys Gln Ser Asp Thr Pro Leu  
35              40              45  
Val Ser Val Val Ile Ala His Asn Glu Glu Pro His Ile Leu Ser  
50              55              60  
Cys Leu Trp Ser Leu Gly Asn Asn Glu Tyr Ser Tyr Pro Ile Glu Ile  
65              70              75              80  
Leu Val Val Asn Asn His Ser Thr Asp Arg Thr Glu Gln Ala Leu Gln  
85              90              95  
Ala Val Gly Ala Thr Tyr Phe Asn Glu Leu Lys Lys Gly Pro Gly Tyr  
100             105             110  
Ala Arg Gln Cys Gly Leu Asp His Ala Lys Gly Arg Tyr His Ile Cys  
115             120             125  
Ile Asp Ala Asp Thr Met Tyr Pro Pro His Tyr Ile Asp Thr His Val  
130             135             140  
Arg Asn Leu Met Lys Pro Gly Val Ala Cys Thr Phe Ser Leu Trp Ser  
145             150             155             160  
Phe Ile Pro Asp Lys Arg His Ser Arg Leu Gly Leu Trp Leu Tyr Glu  
165             170             175  
Cys Leu Arg Asp Leu His Leu Ser Ile Gln Ala Ile Lys Arg Pro Glu  
180             185             190  
Leu Cys Val Arg Gly Met Thr Phe Gly Phe Asn Thr Glu Leu Gly Arg  
195             200             205  
Leu Phe Gly Phe Arg Thr Asp Ile Arg Arg Gly Glu Asp Gly Ser Leu

210	215	220
Ala Leu Ala Met Lys Pro Tyr Gly Arg Leu Ile Phe Ile Thr Ser Arg		
225	230	235
Lys Ala Arg Ala Leu Thr Ser Asn Ser Thr Ile Asp Ala Asp Gly Ser		240
245	250	255
Leu Ala Arg Ser Phe Gly Val Arg Leu Leu Lys Ala Leu Lys Gly Ala		
260	265	270
Thr Gly Leu Leu Tyr Lys Lys Thr Thr Tyr Lys Asp Lys Asp Ser Asn		
275	280	285
Leu Leu		
290		

&lt;210&gt; 7641

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7641

Pro Leu Gln Thr Asn Ala Met Glu Gln Pro Asn Lys His Pro Lys Val		
1	5	10
Ser Val Ile Ile Pro Ile Tyr Asn Thr Cys His Tyr Val Gln Glu Ala		15
20	25	30
Leu Glu Ser Ile Cys Arg Gln Thr Leu Thr Glu Leu Glu Ile Ile Ala		
35	40	45
Ile Asp Asp Gly Ser Thr Asp Ser Ser Arg Lys Val Val Glu Gln Val		
50	55	60
Ala Ala Thr Asp Met Arg Ile Arg Val Tyr Ser Gln Ala Asn Gln Gly		
65	70	75
Gln Ser Ile Thr Arg Asn Asn Gly Met Gln Tyr Val Gln Gly Lys Tyr		80
85	90	95
Val Tyr Phe Met Asp Ser Asp Asp Arg Leu Glu Ala Asp Thr Leu Glu		
100	105	110
Thr Cys Tyr Ser Ala Cys Glu Ala Gly Gln Leu Asp Phe Val Cys Phe		
115	120	125
Asp Ala Asp Ile Leu Asn Lys Asp His Pro Cys Ala Arg His Phe Asn		
130	135	140
Tyr Asp Arg Ser Ala Cys Ala Arg Pro Lys Gln Val Tyr Lys Gly Val		
145	150	155
Glu Leu Leu Gln Arg Gln Leu Ser Ala Arg Val Phe Ser Pro Ser Pro		160
165	170	175
Cys Leu Asn Leu Ile Ser Thr Ser Tyr Leu Lys Thr Ser Gly Leu Thr		
180	185	190
Phe Tyr Pro Arg Ile Ile His Glu Asp Gln Leu Phe Thr Ser Gln Leu		
195	200	205
Tyr Leu Lys Ala Glu Lys Val Gly Tyr Ile Pro Gln Lys Phe Phe Leu		
210	215	220
Arg Arg Phe Arg Thr Asp Ser Thr Met Thr Arg Gln Phe Thr Trp Arg		
225	230	235
Asn Met Glu Gly Tyr Leu Thr Val Thr Asp Glu Leu Leu Lys Ala Ala		240
245	250	255
Pro Ser Tyr Pro Glu Asn Val Arg Arg Leu Ile Arg Gln Phe Leu Cys		
260	265	270
Gln Met Leu Asp Ala Ala Val Trp Gln Ala His Thr Leu Pro Leu Arg		
275	280	285
Gln Arg Ile Gly Leu Phe Leu Leu Cys Leu Arg His Tyr Arg Pro Tyr		
290	295	300
Val Arg Met Arg Thr Leu Met Val Leu Met Leu Lys Lys Lys Glu Glu		
305	310	315
Gly Arg		320

<210> 7642  
<211> 1035  
<212> PRT  
<213> B.fragilis

<400> 7642

Leu	Asn	Lys	Thr	Ile	Cys	Thr	Ile	Lys	Arg	Asn	Lys	Met	Asn	Tyr	Met
1				5				10				15			
Gln	Ile	Leu	Ser	Cys	Trp	His	Lys	Leu	Glu	His	Phe	Ser	Pro	Ala	Ile
							20				25			30	
Leu	Pro	Lys	Asp	Lys	Ser	Leu	Lys	Pro	Leu	Lys	Glu	Leu	Pro	Trp	Met
	35					40					45				
Arg	Pro	Leu	Glu	Ala	Lys	Asp	Pro	Lys	Lys	Thr	Ile	Gln	Tyr	Thr	Ile
	50					55					60				
Tyr	Leu	Gly	Val	Phe	Ser	Gln	Ile	Ser	Val	Ser	Asp	Phe	Val	Lys	Asp
	65					70				75			80		
Phe	Phe	Lys	Asp	Glu	Arg	Asn	Asn	Pro	Asn	Val	Thr	Asp	Ala	Lys	Val
				85					90				95		
Cys	Tyr	Ala	Ser	Leu	Lys	Leu	Asp	Asn	Leu	Gly	Val	Tyr	Ile	Gln	Asn
				100				105				110			
Thr	Phe	Gly	Phe	Ser	Thr	Met	Pro	Trp	Ala	Leu	Arg	Gln	Leu	Glu	Ala
	115					120					125				
Gly	Lys	Val	Asn	Thr	Asn	Ser	Trp	Ser	Glu	Asp	Phe	Asp	Lys	Leu	Arg
	130					135					140				
Lys	Asn	Leu	Leu	Glu	Arg	Leu	Gly	Glu	Asn	Arg	Lys	Glu	Leu	Ala	Glu
	145					150				155			160		
Asp	Tyr	Ser	Ser	Tyr	Leu	Ser	Glu	Thr	Gln	Thr	Leu	Glu	Asn	Leu	Gln
						165			170			175			
Gln	Ile	Gln	Ala	Leu	Ile	Ile	Gln	Asp	Leu	Lys	Trp	Ser	Thr	Ser	Pro
				180				185				190			
Glu	Thr	Glu	Ile	Tyr	Val	Arg	Ile	Glu	Glu	Val	Tyr	Lys	Lys	Asn	Asn
				195				200				205			
Thr	Ser	Asp	Lys	Glu	Glu	Ala	Asn	Ala	Asp	Leu	Leu	Asn	Ser	Phe	Tyr
		210				215					220				
Ile	Asp	Asp	Leu	Glu	Arg	Ile	Ile	Thr	Ser	Ser	Val	Lys	Gly	Ser	Tyr
	225					230				235			240		
Asn	Thr	Ala	Phe	Arg	Asn	Tyr	Leu	Ser	Ala	Cys	Leu	Asn	Lys	Asp	Phe
				245					250			255			
Val	His	Phe	Asp	Leu	Ser	Leu	Gln	Pro	Glu	Ile	Leu	Lys	Glu	Cys	Leu
				260				265			270				
Val	Pro	Glu	Asn	Tyr	Pro	Asp	Gly	Cys	Trp	Pro	Ser	Pro	His	Thr	Ala
				275			280				285				
Ser	Leu	Met	Gln	Gln	Phe	Ala	Val	Asn	Thr	Val	Ser	Lys	Glu	Leu	Ser
				290			295				300				
Gly	Glu	Lys	Gln	Glu	Gly	Ile	Phe	Ser	Val	Asn	Gly	Pro	Pro	Gly	Thr
	305				310					315			320		
Gly	Lys	Thr	Thr	Leu	Leu	Arg	Asp	Ile	Ile	Ala	Ala	Ile	Leu	Val	Lys
					325				330			335			
Arg	Ala	Lys	Lys	Met	Val	Asn	Phe	Thr	Glu	Pro	Ala	Lys	Ala	Phe	Arg
				340				345			350				
Lys	Ile	Gly	Glu	Val	Gln	Val	Ser	Glu	Lys	Tyr	Thr	Pro	Ser	Ile	Tyr
				355			360				365				
Glu	Pro	Asp	Ser	Ser	Ile	Cys	Asp	Gly	Gly	Ile	Val	Val	Ala	Ser	Ser
				370			375				380				
Asn	Asn	Gly	Ala	Val	Glu	Asn	Ile	Ser	Lys	Glu	Leu	Pro	Leu	Lys	Lys
	385				390				395			400			
Glu	Ala	Arg	Gly	Tyr	Ser	Asp	Gln	Val	Gly	Tyr	Phe	Arg	Gln	Val	Ser

405	410	415
Glu Glu Cys Val Gly Glu Glu Ser Trp Gly Leu Ile Ala Ala Val Met		
420	425	430
Gly Asn Lys Glu Asn Gln Arg Lys Leu Ile Tyr Ser Ile Trp Asp Gly		
435	440	445
Asp Ser Glu Glu Ser Tyr Thr Leu Lys Gln Gln Leu Lys Asp Tyr		
450	455	460
Lys Pro Thr Glu Glu Glu Trp Leu Asn Ile Val Val Ser Phe Lys Asn		
465	470	475
Lys Leu Glu Glu Val Glu Ile Glu Lys Ser Arg Leu Thr Gly Phe Met		
485	490	495
Lys Asp Ala Glu Ser Ile Glu Lys Leu Arg Ile Gln Leu Glu Asp Ala		
500	505	510
Glu Ser His Leu Ser His Val Asp Lys Glu Leu Glu Gly Leu Leu Glu		
515	520	525
Glu Lys Asn Leu Leu Ser Thr Glu Ile Lys Arg Gly Lys Gln Gln Lys		
530	535	540
Glu Asp Ala Met Thr Glu Leu Lys Leu Leu Gln Ser Thr Arg Pro Gly		
545	550	555
Phe Phe Ile His Trp Phe Asn Lys Thr Val Arg Thr Gln Tyr Lys Lys		
565	570	575
Ala Leu Thr Ala Thr Leu Thr Lys Tyr Asn Gln Leu Ser Glu Glu Ile		
580	585	590
Thr Lys Gln Lys Thr Ser Leu Gln Ala Leu Asp Leu Arg Val Glu Lys		
595	600	605
Gln Arg Lys Ile Gln Glu Gln Ser Gln Lys Asp Tyr Asp Arg Ile Asn		
610	615	620
Ser Asp Tyr Ala Arg Leu Ser Glu Leu Thr Glu Ala Ala Arg Gln Glu		
625	630	635
Leu Lys Gly Ala Tyr Ala Asp Ala Ser Phe Trp Lys Gln Ile Glu Ser		
645	650	655
Lys Glu Val Gln Glu Ile Ser Pro Trp Tyr Ser Lys Arg Leu Lys Gln		
660	665	670
Leu Gln Ser Glu Leu Phe Ile Glu Ala Met Lys Val Asn Glu Leu Phe		
675	680	685
Ile Leu Arg Ala Asn Ala Thr Ser Ser Arg Ile Lys Thr Thr Leu Asp		
690	695	700
Val Phe Asn Phe Leu Lys Thr Gly Gly Asn Leu Thr Glu Arg Glu		
705	710	715
Ile Gln Ala Ile Trp Asn Thr Phe Trp Leu Ile Val Pro Val Val Ser		
725	730	735
Ser Thr Phe Ala Ser Ile Gln Arg Met Phe Ser Gln Met Lys Thr Gly		
740	745	750
Thr Ile Pro Trp Leu Phe Val Asp Glu Ala Gly Gln Ala Val Pro Gln		
755	760	765
Ala Ala Ala Gly Ala Ile Trp Arg Ser Lys Arg Ala Val Ile Val Gly		
770	775	780
Asp Pro Phe Gln Ile Glu Pro Val Val Thr Ile Pro Glu Gln Ile Val		
785	790	795
Asn Asn Ile Ser His His Phe Gly Leu Asp Lys Thr Gln Ile Gln Thr		
805	810	815
Ser Leu Ser Val Gln Ser Met Ala Asp Arg Ala Asn Pro Tyr Gly Trp		
820	825	830
Ile Thr Asn Asp Thr Trp Thr Gly Ser Pro Leu Arg Val His Arg Arg		
835	840	845
Cys Val Asp Pro Met Phe Ser Ile Ala Asn Glu Ile Ala Tyr Asn Gly		
850	855	860
Met Met Tyr Asn Ser Thr Leu Ala Glu Ser Ser Gln Leu Phe Met Arg		
865	870	875
		880

Asn Gly Phe Leu Gln Val Glu Gly Lys Val Ser Gly Arg His Tyr Val  
       885                  890                  895  
 Pro Glu Gln Gly Ile Leu Ile Arg Gln Met Ile Ile Asp Glu Ile His  
       900                  905                  910  
 His Leu Gln Asp Leu Pro Asp Leu Phe Val Ile Ser Pro Phe Ser Glu  
       915                  920                  925  
 Ile Pro Pro Ile Leu Lys Lys Glu Leu Arg Gln Pro Ile Lys Gln Ala  
       930                  935                  940  
 Leu Ala Thr Tyr Lys Ser Ile Glu Asp Asn Glu Leu Lys Lys Trp Leu  
       945                  950                  955                  960  
 Asp Ala His Ile Gly Thr Val His Thr Phe Gln Gly Lys Gln Ala Ala  
       965                  970                  975  
 Gly Val Ile Leu Cys Leu Gly Leu Asp Glu Lys Ser Lys Gly Ala Ala  
       980                  985                  990  
 Ser Trp Ala Ser Ser Lys Pro Asn Leu Leu Asn Val Ala Leu Thr Arg  
       995                  1000                1005  
 Ala Lys Gln Arg Phe Val Ala Val Gly Asp Gly Asp Ile Trp Leu Arg  
   1010                  1015                1020  
 Gln Pro Tyr Phe Ser Lys Leu Lys Ala Leu Asn  
   1025                  1030                1035

&lt;210&gt; 7643

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7643

Leu Leu Lys Thr Asn Gly Met Glu Leu Phe Ser Phe Leu Gln Val Asp  
   1                  5                  10                  15  
 Ser Asp Leu Thr Ala Trp Phe Ile Leu Asp Gly Gln Glu Tyr Glu Met  
       20                  25                  30  
 Ser His Phe Asp Ile Asn Phe Ala Gln Ser Val Asp His Lys Gly Gln  
       35                  40                  45  
 Pro Gln Asp Glu Val Arg Gly Gly Ile Met Ser Ile Thr Leu Ser Gln  
       50                  55                  60  
 Thr Leu Pro Glu Asn Ile Tyr Arg Trp Gly Met Thr Ser Ile Pro Lys  
       65                  70                  75                  80  
 Asn Gly Ser Val Ile Phe Lys Ser Lys Thr Thr Asn Pro Pro Leu Lys  
       85                  90                  95  
 Ile Asn Phe Ile Asn Ala Tyr Cys Ile Arg Phe Asn Arg Ser Ile Ala  
       100                105                110  
 Asn Glu Gly Gly Leu Glu Ser Gln Leu Val Ile Ser Pro Asp Glu Met  
       115                120                125  
 Leu Ile Asn Gly Ile Ser Phe Asp Asn His Trp Val Lys  
       130                135                140

&lt;210&gt; 7644

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7644

Asp Glu Lys Thr Phe Leu Gln Asn Lys Lys Met Ile Phe Phe His Lys  
   1                  5                  10                  15  
 Val Ile Cys Phe Ile Leu Ile Ile Phe Arg Gln Leu Ser Val Cys Ala  
       20                  25                  30  
 Thr Lys Val Lys Phe Tyr Phe Phe Thr Thr Val Ser Arg Gln Asp Thr  
       35                  40                  45  
 Ile Ile Gln Asn Ile Tyr Ile Ile Phe Asn Arg Lys His Asn Ser Asn

50	55	60
Ala Gln Thr Ile Ile Ala Gln Met Lys Lys Lys	Ile Thr Lys Thr Leu	
65	70	75
Leu Ile Glu Pro Glu Asp Glu Lys Ile Glu Met Val Asn Asn Val Ile		80
85	90	95
His Gln Ser Ile Glu Glu Leu Leu Val Pro Tyr Glu Lys Arg Arg Thr		
100	105	110
Tyr Leu Pro Arg Lys Pro Pro Lys		
115	120	

&lt;210&gt; 7645

&lt;211&gt; 259

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7645

Leu Asn Phe Leu Leu Phe Asn Lys Tyr Tyr Ile Ile Met Met Gly Gln		
1	5	10
Gly Asp Lys Lys Ile Arg Ile Arg Arg Thr Asn Glu Gln Leu Asp Lys		15
20	25	30
Glu Val Ile Ser Glu Phe Glu Lys Leu Val Gly Glu Phe Gly Phe Gly		
35	40	45
Asn Val Asn Leu Ser Ala Leu Met Lys Ala Ala Asp Leu Glu Ala Asn		
50	55	60
Val Phe Tyr Arg Arg Tyr Gly Ser Met Asp Asn Leu Tyr Asp Arg Leu		
65	70	75
80		
Ala Lys Gln Tyr Asp Phe Trp Ile Asn Asn Thr Ile Asp Ile Ser Thr		
85	90	95
Leu Asn Thr Leu Gly Pro Lys Lys Phe Phe Ala Glu Thr Phe Lys Thr		
100	105	110
Leu Phe Arg Asn Leu Ser Glu Asn Ser Val Met Gln Lys Leu Leu Leu		
115	120	125
Tyr Glu Met Thr Thr Ile Asn Ser Thr Thr Lys Arg Ser Ala Glu Thr		
130	135	140
Arg Asp Val Met Asn Leu Asn Leu Ile Thr Phe Tyr Glu Asn Leu Phe		
145	150	155
160		
Ala Pro Ala Lys Ile Asn Ile Lys Ser Ile Ala Ser Ile Leu Ile Gly		
165	170	175
Gly Ile Tyr Tyr Leu Ile Leu His Lys Glu Cys Ala Lys Ile Cys Thr		
180	185	190
Ile Asp Tyr Lys Thr Lys Glu Gly Glu Asn Ala Phe Ser Glu Gly Ile		
195	200	205
Asp Phe Leu Thr Asp Ile Ile Phe Asp Arg Leu Glu Met Tyr Asp Arg		
210	215	220
Asp Lys Lys Ala Ile Arg Gln Met Ile Ser Asp Gly Ile Ser Glu Ser		
225	230	235
240		
Lys Ile Cys Lys Tyr Met Gly Ile Asn Lys Asn Asp Leu Lys Thr Leu		
245	250	255
Leu Ser Glu		

&lt;210&gt; 7646

&lt;211&gt; 72

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7646

Lys Glu Ala Ala Glu Arg Ala Gly Ile Lys His Arg Val His Val His		
1	5	10
		15

Met Leu Arg His Ser Phe Ala Thr His Leu Leu Glu Gln Gly Thr Asp  
   20                   25                   30  
 Leu Arg Thr Ile Gln Glu Leu Leu Gly His Asn Asp Ile Lys Thr Thr  
   35                   40                   45  
 Ser Ile Tyr Leu His Val Thr Ser Ala His Lys Ser Ser Ile Pro Asn  
   50                   55                   60  
 Pro Leu Asp Thr Leu Asp Asp Ser  
   65                   70

&lt;210&gt; 7647

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7647

Ile Thr Ser Ala Lys Ile Ser Tyr Gly Asn Asn Lys Pro Pro Ile Lys  
 1                   5                   10                   15  
 Ile Phe Met Thr Asp Phe Asn Trp Met Leu Trp Ile Val Thr Pro Ile  
   20                   25                   30  
 Ile Ile Val Tyr Tyr Leu Tyr Arg His Val Trp Pro Ala Val Arg Lys  
   35                   40                   45  
 Phe Ile Arg Leu Phe Gln Gly Ile Arg Ile Asn Pro Arg Ser His Leu  
   50                   55                   60  
 Thr Glu Ala Glu Tyr Lys Lys Leu Ser Val Gly Ser Leu Tyr Ala Leu  
   65                   70                   75                   80  
 Gln Gln Gly Ala Tyr Leu Asn Ser Leu Thr Leu Asp Ser Lys Asp Lys  
   85                   90                   95  
 Leu Pro Thr Ile Leu Ala Asp Trp Trp Gly Ile Cys Asn Ala Gln Asp  
   100                  105                  110  
 Ala Lys Gln Thr Leu Glu Tyr Leu Gly Lys Lys Gly Phe Ala Tyr Tyr  
   115                  120                  125  
 Phe Pro His Val Tyr Gln Ala Phe Leu Leu Asp Asp Glu Glu Ala Lys  
   130                  135                  140  
 Asp Arg Ile Phe Gln Gln His Met Asp Ser Gln Glu Asp Tyr Asp Lys  
   145                  150                  155                  160  
 Ala Val Glu Gln Leu His Asn Leu Glu Asp Cys Tyr Asp Glu Leu Leu  
   165                  170                  175  
 Glu Cys Gly Thr Ile Thr Cys Arg Glu Asp Leu Leu Arg Tyr Gly Val  
   180                  185                  190  
 Thr Gly Trp Asp Ala Gly Arg Leu Asn Phe Met Ala Arg Ala Cys Tyr  
   195                  200                  205  
 Asp Met Lys Tyr Ile Ser Glu Asp Glu Ala Trp His Tyr Ile Asn His  
   210                  215                  220  
 Ala Tyr Glu Met Val His Ser Arg Phe Ser Ser Trp His Asp Phe Ala  
   225                  230                  235                  240  
 Met Ser Tyr Val Ile Gly Arg Ala Leu Trp Gly Gly Lys Ser Ala Ser  
   245                  250                  255  
 Asn Ser Gly Met Met Tyr Met Ala Glu Asp Leu Leu Lys Ser Glu Lys  
   260                  265                  270  
 Ser Pro Trp Thr Lys Ile Glu Trp  
   275                  280

&lt;210&gt; 7648

&lt;211&gt; 326

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7648

Ile Met Lys Ala Leu Phe Leu Thr Val Ile Leu Met Ala Phe Ala Ser

1	5	10	15												
Cys	Gly	Asn	Ala	Gln	Val	Lys	Thr	Lys	Thr	Glu	Lys	Glu	Met	Lys	Gln
				20				25						30	
Glu	Ile	Ala	Lys	Leu	Glu	Glu	Leu	Ile	Lys	Glu	Glu	Leu	Gln	Met	Val
				35				40					45		
Lys	Thr	Tyr	Pro	Glu	Lys	Pro	Ala	Tyr	Tyr	Leu	Gln	Ile	Asn	Lys	Thr
				50				55				60			
Gly	Cys	Arg	Leu	Leu	Val	Arg	Val	Asp	Asp	Ile	Pro	Ile	Gly	Tyr	His
				65				70			75		80		
Phe	Val	Glu	Asn	Glu	Gly	Glu	Ser	Met	Leu	Tyr	Pro	Ile	Asn	Asp	Val
				85				90				95			
Leu	Phe	Gly	Ser	Gly	Lys	His	Thr	Val	Ser	Ile	Gln	Val	Tyr	Pro	Arg
				100				105				110			
Thr	Gly	Glu	Thr	Glu	Val	Thr	Lys	Asn	Ala	Ser	Val	Asn	Ile	Lys	Ile
				115				120				125			
Ile	Tyr	Tyr	Gln	Glu	Lys	Leu	Val	Gly	Met	Pro	Lys	Thr	Leu	Val	Glu
				130				135			140				
Leu	Asp	Thr	Pro	Glu	Asp	Ile	Gly	Thr	Lys	Lys	Ser	Pro	Ile	Tyr	Thr
				145				150			155		160		
Asp	Ser	Val	Ser	Phe	Asn	Ala	Ile	Leu	Pro	Phe	Asp	Tyr	Lys	Arg	Ile
				165				170				175			
Leu	Ala	Glu	Ala	Lys	Asp	Leu	Gln	Lys	Val	Pro	Asp	Leu	Glu	Lys	Lys
				180				185				190			
Val	Leu	Ala	His	Tyr	Asn	Lys	Val	Arg	Gln	Met	Met	Ile	Glu	Gly	Lys
				195				200				205			
Tyr	Tyr	Glu	Tyr	Glu	Lys	Met	Arg	Leu	Ser	Thr	Thr	Trp	Val	Leu	Ala
				210				215			220				
Asp	Met	Ser	Tyr	Leu	Gly	Gln	Asp	Ala	Leu	Arg	Lys	Ala	His	Ile	Asp
				225				230			235		240		
Glu	Asp	Tyr	Leu	Phe	Arg	Phe	Leu	Cys	Glu	Pro	Ile	Asp	Trp	Ile	Ala
				245				250				255			
Leu	Pro	Ile	Glu	Asn	Tyr	Glu	Met	Val	Ile	Cys	Gly	Asn	Arg	Lys	Leu
				260				265				270			
Val	Tyr	Leu	Arg	Arg	Lys	Val	Glu	Leu	Asp	Asp	Val	Leu	Gln	Val	Arg
				275				280			285				
Tyr	Tyr	Asp	Thr	Glu	Glu	Gln	Lys	Arg	Leu	Ser	Pro	Asp	Met	Arg	Thr
				290				295			300				
Val	Ser	Ala	Phe	Gln	Phe	Ile	Ala	Leu	Tyr	Met	Pro	Lys	Asp	Ser	Asn
				305				310			315		320		
Glu	Leu	Met	Glu	Leu	Tyr										
				325											

&lt;210&gt; 7649

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7649

Cys	Ala	Asn	Phe	Leu	Thr	Asn	Ser	Leu	Tyr	Asp	Phe	Gln	Ile	Asp	Asp
1			5					10					15		

Asp	Gly	Phe	Pro	Val	Arg	Glu	Gly	Ser	Val	Val	Cys	Val	Ser	Pro	Ala
				20				25				30			

Pro	Ser	Arg	Gly	Met	Arg	Asn	Ser	Ser	Asp	Glu	Pro	Met	Ile	Tyr	Met
				35				40				45			

Val	Ile	Gln	Ser	Lys	Glu	Asn	Ser	Val	Gly	Asn	Tyr	Ser	Thr	Glu	Asp
				50				55			60				

Gly	Thr	Arg	Thr	Phe	Tyr	Thr	Glu	Leu	Leu	His	Trp	Ile	Lys	Glu	Val
				65				70			75		80		

Leu	Ser	Glu	Asn	Leu	Asp	Leu	Met	Lys	Ser	Leu	Leu	Asp	Asn	Asp	Leu
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

85	90	95
Ala Glu Glu Lys Ala Lys Asn Leu Val Gly Leu Asp Val Thr Asn Asp		
100	105	110
Trp Ser Gln Glu Ser Ile Glu Ile Leu Phe Lys Leu Val Leu Met Tyr		
115	120	125
Ala Asn Arg Glu Pro Tyr Tyr		
130	135	

&lt;210&gt; 7650

&lt;211&gt; 293

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7650

Ile Lys Tyr Tyr Cys Ile Arg Cys Phe Ile Ser Lys Lys Arg Gly Ile		
1 5 10 15		
Phe Arg Ala Leu Val Ala Asn Leu Ser Tyr Ile Cys Thr Asp Phe Ala		
20 25 30		
Ser Lys Gln Thr Ile Tyr Thr Asn Lys Tyr Ile Asp Met Lys Arg Val		
35 40 45		
Leu Phe Ile Leu Cys Ser Ile Pro Leu Leu Phe Ser Pro Val Ser		
50 55 60		
Phe Ala Asn Ala Gln Glu Thr Ser Asp Phe Ser Lys Leu Asn Pro Glu		
65 70 75 80		
Asp Tyr Thr Asn Ile Ser Leu Pro Pro Leu Asp Leu Leu Phe Glu Asn		
85 90 95		
Ala Lys Gly Gly Pro Ile Tyr Glu Leu Ala Ser Val Lys Glu Gln Ile		
100 105 110		
Glu Arg Lys Leu Leu Ala Lys Glu Arg Arg Ala Phe Leu Gln Phe Phe		
115 120 125		
Ser Val Arg Gly Ser Tyr Gln Trp Gly Arg Phe Gly Val Asp Asn Thr		
130 135 140		
Phe Thr Asp Val Ala Thr Pro Ile Met Tyr Asn Tyr Ser Thr Ser Lys		
145 150 155 160		
Gln Lys Met Tyr Thr Val Gly Gly Ala Ile Asn Ile Pro Phe Asn Glu		
165 170 175		
Leu Phe Asp Leu Val Pro Arg Val Arg Arg Gln Lys Leu Thr Val Lys		
180 185 190		
Thr Ala Val Leu Glu Arg Glu Val Lys Phe Glu Glu Met Lys Arg Glu		
195 200 205		
Ile Ile Glu Leu Tyr Ala Thr Ala Thr Ser Gln Leu Asn Val Leu Lys		
210 215 220		
Leu Arg Ala Glu Ala Leu Glu Leu Ala Asn Met Gln Tyr Asp Ile Ala		
225 230 235 240		
Glu Lys Asn Phe Val Asn Asn Thr Ile Asn Thr Gly Asp Leu Ser Val		
245 250 255		
Glu Lys Glu Arg Gln Ser Thr Ala Leu Glu Ala Phe Glu Lys Ser Arg		
260 265 270		
Phe Glu Val Thr Lys Ser Leu Met Ile Leu Glu Val Val Thr Arg Thr		
275 280 285		
Pro Ile Leu Lys Lys		
290		

&lt;210&gt; 7651

&lt;211&gt; 330

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7651

Asn Lys Pro Tyr Met Asp Ala Ser Lys Gln Arg Gly Ser Ile Val Leu  
 1 5 10 15  
 Thr Lys Gln Asn Ile Asp Gly Gln Asp Tyr Ile Arg Ile Glu Tyr Thr  
 20 25 30  
 Asp Asn Gln Thr Ile Ala Leu Leu Ser Gln Asp Lys Gly Ile Lys  
 35 40 45  
 Thr Ile Gly Asn Gly Ser Ala Tyr Ile Gln Ala Ser Thr Phe Gln Leu  
 50 55 60  
 Pro Glu Phe Tyr Thr Arg Tyr Ser Pro His Ala Tyr Ile Asp Tyr Ser  
 65 70 75 80  
 Arg Val Tyr Val Arg His Pro Lys Pro Gln Arg Glu Tyr Val Leu Pro  
 85 90 95  
 Lys Gly Tyr Leu Glu Leu Leu Glu Gln Lys Arg Tyr Ser Pro Ser Thr  
 100 105 110  
 Ile Lys Thr Tyr Arg Ile Tyr Phe Ser Asp Phe Met Glu Tyr His Lys  
 115 120 125  
 Gly Arg Asn Ile Asp Tyr Leu Lys Val Ala Asp Ile Asn His Tyr Ile  
 130 135 140  
 Leu Tyr Leu Val Asn Glu Lys Ile Ser Val Ser Gln Gln Asn Met  
 145 150 155 160  
 Arg Ile Asn Ala Ile Lys Phe Tyr Tyr Glu Arg Val Lys Gly Gly Lys  
 165 170 175  
 Cys Gln Tyr Tyr Gly Gly Ile Thr Gly Ala Lys Glu Tyr Lys Thr Leu  
 180 185 190  
 Pro Glu Val Leu Ser Arg Asn Glu Ile Ser Arg Ile Leu Ser Cys Leu  
 195 200 205  
 Pro Asn Leu Lys His His Cys Met Ile Ser Leu Ile Tyr Ser Val Gly  
 210 215 220  
 Leu Arg Arg Ser Glu Leu Leu Asn Leu Ile Pro Lys Asp Ile Ile Ser  
 225 230 235 240  
 Glu Arg Met Leu Val Arg Ile Met Gly Lys Arg Lys Lys Cys Arg Tyr  
 245 250 255  
 Ser Leu Leu Ser Glu Lys Val Leu Asn Glu Leu Arg Thr Tyr Tyr Lys  
 260 265 270  
 Glu Tyr Arg Pro Lys Lys Trp Leu Phe Glu Gly Asp Ser Pro Gly Glu  
 275 280 285  
 Gln Tyr Ser Ala Ser Ala Leu Val Lys Val Leu Lys Arg Gly Cys Arg  
 290 295 300  
 Thr Cys Arg Tyr Gln Thr Ser Gly Thr Cys Thr His Ala Pro Ser Leu  
 305 310 315 320  
 Phe Arg Tyr Pro Phe Val Gly Thr Arg Tyr  
 325 330

&lt;210&gt; 7652

&lt;211&gt; 227

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7652

Tyr Gly Leu Tyr Gly Asn Lys Ile Val Phe Ser Gly Leu Glu Asn Ile  
 1 5 10 15  
 Lys Asp Cys Cys Lys Met Lys Ile Thr Arg Asp Glu Leu Leu Ile Ala  
 20 25 30  
 Ala Phe Lys Leu Phe Met Ser Val Asn Tyr Glu Lys Ala Ser Phe Ala  
 35 40 45  
 Glu Leu Gly Lys Met Leu Gly Met Ser Lys Ala Gly Ile Phe Lys Tyr  
 50 55 60  
 Tyr Lys Asn Lys Gln Glu Leu Phe Ile Ala Val Val Asp Lys Phe Trp  
 65 70 75 80

Phe Ser Thr Gln Asn Pro Arg Asn Lys Phe Thr Glu Thr Asn Gly Thr  
       85                  90                  95  
 Phe Ala Glu Phe Ile Asp Glu Tyr Val Arg Gly Val Gln Arg Thr Met  
       100                105                110  
 Asp Met Leu Gly Asp Leu Ile Gly Ala Glu Arg Glu Lys Val Ala Gln  
       115                120                125  
 Gly Lys Phe Thr Tyr His Ala Gln Tyr Phe His Phe Leu Phe Gln Leu  
       130                135                140  
 Leu Gln Tyr Asp Pro Asp Ala Lys Glu Lys Leu Arg Asn Leu Val Asp  
       145                150                155                160  
 Gly Asp Tyr Ala Tyr Trp Arg Ala Ala Ile Gln Arg Ala Ile Ala Thr  
       165                170                175  
 Gly Glu Leu Arg Glu Asp Val Asp Val Glu Asp Ala Val Val Met Phe  
       180                185                190  
 Arg Gln Val Tyr Met Gly Leu Ser Phe Glu Met Ala Phe Met Gly Gly  
       195                200                205  
 Leu Asn Thr Gln Arg Leu Ala Lys His Leu His Ala Val Tyr Ser Leu  
       210                215                220  
 Leu Lys Arg  
       225

&lt;210&gt; 7653

&lt;211&gt; 235

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7653

Asn Leu Glu Tyr Met Ser Asp Lys His Leu Val Cys Lys Gly Ala Thr  
   1                  5                  10                  15  
 Val Tyr Cys Ser Lys Ser Met Val Asn Asn Ser Pro Gly Thr Ala Ile  
   20                  25                  30  
 Pro Leu Thr Ile Thr Ser Asn Thr Leu Val Glu Leu Asn Gly Gly Lys  
   35                  40                  45  
 Val Ala Ala Thr Asp Lys Asp Cys Thr Pro Ala Asn Met Cys Phe Gly  
   50                  55                  60  
 Asn Cys Asn Thr Gly Thr Asn Pro Pro Pro Cys Val Ala Asn Val  
   65                  70                  75                  80  
 Gln Trp Ser Lys Phe Tyr Glu Gly Ala Glu Val Thr Glu Ala Gly Met  
   85                  90                  95  
 Lys Leu Leu Thr Glu Glu Ser Glu Ala Thr Cys Met Ala Phe Gly Gly  
   100                105                110  
 Lys Val Lys Ile Ala Phe His Gly Gln Val Ala Asn Pro Gln Pro Glu  
   115                120                125  
 Glu Pro Gly Glu Val Ser Pro Glu Val Met Ala Gly Ile Leu Pro Val  
   130                135                140  
 Asn Pro Arg Pro Glu Glu Thr Ile Val Ile Thr Glu Gly Asp Glu Glu  
   145                150                155                160  
 Arg Glu Lys Lys Ile Thr Asp Ala Tyr Trp Val Asp Glu Lys Thr Gln  
   165                170                175  
 Glu Lys Met Gln Glu Ile Tyr Pro Gly Lys Val Thr Leu Cys Leu  
   180                185                190  
 Lys Thr Ser Gly Tyr Val Glu Gly Glu Gln Ala Asp Ile Lys Ile Lys  
   195                200                205  
 Met Glu Asp Gly Lys Glu Lys Thr Ala Ser Gly Glu Val Lys Arg Asp  
   210                215                220  
 Gly Thr Val Val Ile Glu Asn Phe Glu Ile Asp  
   225                230                235

&lt;210&gt; 7654

<211> 251  
<212> PRT  
<213> B.fragilis

<400> 7654

Gln	Phe	Arg	Tyr	Glu	Ala	Val	Gly	Ile	Phe	Val	Gln	Gly	Asp	Cys	Gly	
1				5					10					15		
Leu	Tyr	Glu	Arg	Ala	Pro	Gly	Gly	His	Tyr	Leu	Leu	Ser	Gly	Val	Cys	
					20				25					30		
Arg	Ala	Thr	Gly	Thr	Phe	Thr	Ser	Asp	Ser	Ile	Arg	Asn	Ala	Phe	Ala	
					35			40						45		
Asp	Trp	Gln	Tyr	Ala	Val	Ile	Pro	Gln	Ala	Pro	Asp	Ser	Thr	Pro	Ile	
					50			55						60		
Leu	Gln	Val	Ala	Leu	Phe	Ser	Lys	Tyr	Pro	Val	Lys	Asp	Ser	Arg	Leu	
					65			70			75			80		
Ile	Thr	Tyr	Pro	Asp	Ser	Arg	Asn	Cys	Ser	Met	Trp	Cys	Asp	Leu	Asp	
					85				90					95		
Val	Asn	Gly	Gln	Thr	Val	Arg	Val	Phe	Asn	Asn	His	Leu	Gln	Thr	Thr	
					100			105						110		
Glu	Val	Ser	Gln	Asn	Lys	Arg	Arg	Leu	Glu	Arg	Glu	Leu	Ala	Lys	Asn	
					115			120						125		
Glu	Leu	Thr	Gly	Arg	Glu	Glu	Ala	Val	Ala	Arg	Gln	Leu	Leu	Glu	Gly	
					130			135						140		
Leu	Asn	Glu	Asn	Phe	Arg	Lys	Arg	Ala	Ala	Gln	Ala	Lys	Thr	Leu	Glu	
					145			150						160		
Gln	Leu	Ile	Arg	Thr	Thr	Pro	Tyr	Pro	Ile	Leu	Val	Cys	Gly	Asp	Phe	
					165				170					175		
Asn	Ser	Leu	Pro	Ser	Ser	Tyr	Thr	Tyr	Ser	Thr	Val	Lys	Gly	Asp	Asn	
					180			185						190		
Leu	Gln	Asp	Gly	Phe	Gln	Thr	Cys	Gly	His	Gly	Tyr	Met	Tyr	Thr	Phe	
					195			200						205		
Arg	Tyr	Phe	Lys	Arg	Leu	Leu	Arg	Ile	Asp	Tyr	Ile	Phe	His	Ser	Lys	
					210			215						220		
Glu	Phe	Lys	Gly	Val	Asp	Tyr	Tyr	Ser	Pro	Asp	Leu	Asp	Leu	Cys	Ser	
					225			230						235		240
Asp	His	Asn	Pro	Val	Val	Met	Glu	Val	Lys	Met						
					245									250		

<210> 7655  
<211> 828  
<212> PRT  
<213> B.fragilis

<400> 7655

Asn	Met	Asp	Phe	Leu	Asn	Ile	Asn	Glu	Thr	Val	Gln	Ser	Val	Ile	Arg	
1					5				10					15		
Ile	Ser	Lys	Gly	Val	Ala	Arg	Glu	Tyr	Gly	Asn	Ala	Ser	Tyr	Ala	Pro	
					20			25						30		
Ala	His	Leu	Leu	Phe	Ala	Leu	Met	His	Lys	Glu	Val	Gly	Leu	Arg	Ser	
					35			40						45		
Phe	Val	Glu	Ser	Leu	Gly	Lys	Asp	Ala	Asp	Tyr	Leu	Arg	Glu	Trp	Ala	
					50			55						60		
Glu	Val	Arg	Ile	Glu	Glu	Tyr	Pro	Lys	Ala	Ala	Gly	Ala	Gly	Glu	Ile	
					65			70			75			80		
Met	Pro	Asp	Pro	Lys	Val	Asn	Glu	Leu	Phe	Glu	Gln	Ala	Asp	Asn	Val	
					85				90					95		
Arg	Ile	Lys	Trp	Gly	Leu	Leu	Glu	Ile	Asn	Pro	Leu	Cys	Leu	Leu	Ala	
					100			105						110		
Ala	Ile	Ala	Thr	Pro	Glu	Ala	Gly	Phe	Ser	Thr	Asp	Glu	Leu	Arg	Ser	

115	120	125
Phe Pro Ile Arg Glu Arg Glu	Ile His Asp Leu Phe Thr Ser Gly Met	
130	135	140
Gly Asn Met Lys Lys Ser Val Ser Thr Gln Thr Asp Leu Pro Gly Ser		
145	150	155
Glu Ala Pro Leu Trp Thr Ala Gly Ala Gly Asn Leu Asp Lys Tyr Cys		160
165	170	175
Thr Asp Lys Thr Ala Leu Ala Ala Asp Lys Lys Val Tyr Pro Ile Val		
180	185	190
Cys Arg Asp Arg Glu Thr Arg Met Met Met Glu Ile Leu Gly Arg Met		
195	200	205
Gly Lys Pro Asn Val Leu Ile Ile Gly Asp Ala Gly Val Gly Lys Thr		
210	215	220
Ala Leu Val Asp Gly Leu Ala Cys Ser Ile Ile Glu Gly Thr Val Pro		
225	230	235
Gln Tyr Leu Lys Asp Met Thr Ile Tyr Glu Leu Asp Thr Gly Thr Leu		240
245	250	255
Ile Ala Gly Ala Thr Tyr Lys Gly Glu Ile Glu Glu Arg Leu Lys Gly		
260	265	270
Ile Ile Lys Glu Leu Ser Ala His Gly Asn Ala Ile Leu Phe Ile Asp		
275	280	285
Glu Ile His Thr Leu Ile Asp Pro Lys Ser Gly Asn Ser Gly Ala Ala		
290	295	300
Ser Ile Leu Lys Pro Glu Leu Ala Lys Gly Asn Ile Thr Val Ile Gly		
305	310	315
Val Thr Thr Val Asp Glu Tyr Arg Lys Leu Ile Glu Pro Asp His Ala		320
325	330	335
Leu Asn Arg Arg Phe Glu Val Leu Gln Val Ser Glu Pro Asp Leu Ala		
340	345	350
Ser Thr Val Asn Met Ile Gln Ala Ala Leu Glu Arg Tyr Glu Ser Tyr		
355	360	365
His Gly Val Gly Val Asp Val Asp Ser Leu Pro Glu Cys Val Ala Leu		
370	375	380
Ala Lys Arg Tyr Val Lys Glu Arg Arg Leu Pro Asp Ala Ala Ile Asp		
385	390	395
Leu Ile Asp Arg Thr Leu Ser Ala Val Lys Met Ile Asn Gln Ser Gly		400
405	410	415
Glu Lys Asp Ile Lys Gly Leu Ala Glu Gln Leu Ala Ala Ile Glu Ala		
420	425	430
Ala Glu Asp Gln Pro Glu Ala Glu Arg Thr Glu Lys Leu Arg Leu Val		
435	440	445
Asn Phe Thr Met Lys Asn Arg Leu Ser Pro Ile Leu Leu Gly Met Leu		
450	455	460
Ser Asp Gly Gln Asn Glu Pro Glu Ser Ser Asp Tyr Gly Glu Trp Met		
465	470	475
Asp Tyr Ile Leu Gly Val Leu Asp Arg Leu Arg Glu Leu Thr Lys Glu		480
485	490	495
Lys Ile Gly Lys Ile Thr Ser His Glu Val Ala Ala Val Ile Ser Ser		
500	505	510
Ser Thr Gly Ile Pro Ile Gly Lys Ile Glu Ser Gly Glu Lys Glu Lys		
515	520	525
Leu Leu Asn Met Glu Asp Ile Leu Arg Arg Arg Val Val Gly Gln Asp		
530	535	540
Asn Ala Leu Lys Val Leu Thr Asp Ala Ile Val Glu Ser Arg Ser Gly		
545	550	555
Met Asn Lys Pro Gly Gln Pro Ile Gly Ser Phe Phe Leu Leu Gly Pro		560
565	570	575
Thr Gly Thr Gly Lys Thr Glu Leu Ala Lys Ala Leu Ala Glu Ala Leu		
580	585	590

Phe Asn Asp Glu Lys Ala Met Ile Arg Phe Asp Met Ser Glu Phe Lys  
 595 600 605  
 Glu Glu His Ser Ala Ala Leu Leu Leu Gly Ala Pro Pro Gly Tyr Val  
 610 615 620  
 Gly Tyr Glu Glu Gly Gly Val Leu Val Asn Arg Ile Arg Arg Gln Pro  
 625 630 635 640  
 Tyr Ala Val Val Leu Phe Asp Glu Ile Glu Lys Ala His Ser Ser Val  
 645 650 655  
 Tyr Asp Ile Phe Leu Gln Ile Met Asp Glu Gly Lys Leu His Asp Arg  
 660 665 670  
 Leu Gly Lys Glu Gly Asp Phe Ser Asn Ser Ile Val Leu Phe Thr Ser  
 675 680 685  
 Asn Val Gly Ser Glu Trp Leu Ser Lys Gln Ile Asn Glu Gly Lys Asn  
 690 695 700  
 Pro Ser Thr Thr Asp Leu Met Glu Val Met Gly Ser Tyr Phe Arg Pro  
 705 710 715 720  
 Glu Phe Leu Ala Arg Leu Ser Glu Ile Val Pro Phe Ser Pro Ile Asn  
 725 730 735  
 Glu Thr Met Leu Val Arg Ile Phe Glu Ile Gln Leu Lys Gly Val Ile  
 740 745 750  
 Ala Leu Leu Glu Lys Gln His Ile Asp Ile Glu Ile Thr Glu Lys Ala  
 755 760 765  
 Lys Asn Leu Leu Ala Thr Arg Gly Phe Thr Pro Lys Tyr Gly Ala Arg  
 770 775 780  
 Gln Val Ala Gly Thr Ile Arg Asn Tyr Ile Arg Arg Pro Ile Ser Lys  
 785 790 795 800  
 Met Ile Val Ala Gly Thr Leu Ala Ala Gly Asn Thr Val Val Val Asp  
 805 810 815  
 Val Ala Asp Asn Gly Asp Ile Asp Trp Asn Val Lys  
 820 825

<210> 7656

<211> 76

<212> PRT

<213> B.fragilis

<400> 7656

Cys Lys Leu Gln Ala Leu Arg Ile Val Ala Tyr Gly Asp Arg Glu Asp  
 1 5 10 15  
 Gln Asp Ala Arg Gln Asp Gly Ala Asp Asp Gln Arg Ile Glu Pro Gly  
 20 25 30  
 Ser Ala Gln Gly Cys His Asp Gly Ser Arg Ser Gly Gly Tyr Leu Tyr  
 35 40 45  
 Asp Glu Thr Pro Gln Gly Asp Glu Leu Lys Leu Phe Ile Ala Val Glu  
 50 55 60  
 Gln Arg Ile Gly Asn Asp Gly Gly Ser Lys Lys  
 65 70 75

<210> 7657

<211> 162

<212> PRT

<213> B.fragilis

<400> 7657

Thr Ile Thr Asn Asn Cys Ala Met Asn Lys Thr Val Gln Ser Ile Leu  
 1 5 10 15  
 Ser Leu Thr Ala Val Ser Leu Leu Leu Ile Val Ile Thr Phe Phe Leu  
 20 25 30  
 Gly Gly Leu Gly Phe Gly Arg Leu Phe Gly Ile Tyr Gly Val Met Glu

35	40	45	
Asp Ser Phe Leu Gly Met Leu Met Val Ile Asp Met	Leu Val Ile Tyr		
50	55	60	
Lys Val Tyr Lys Leu Tyr Phe Cys Gln Pro	Lys Ala Ile Met Leu	Leu	
65	70	75	80
Phe Gly Leu Glu Cys Cys Ser Ile Leu Leu Trp	Leu Val Phe Ile Cys		
85	90	95	
Leu Asp Gln His Leu Leu Asp Trp Gln Ile Thr Asn	Leu Leu Gln		
100	105	110	
Ala Val Ser Leu Asp Gly Phe Ala Gly Asp Glu Arg	Gly Leu Asn Met		
115	120	125	
Leu Ala Val Leu Cys Gly Met Ile Tyr Pro Leu Ile	Gly Ile Gly Cys		
130	135	140	
Leu Phe Thr Gly Leu Arg Phe Ile Asn Lys	Leu Val Thr Thr Lys Asp		
145	150	155	160
Ser Ile			

&lt;210&gt; 7658

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7658

Gly Lys Asn Asn Cys Trp Phe Lys Tyr Lys Gln Val Ile	Leu Asn Leu		
1	5	10	15
Phe Ser Cys His Leu Ala Ile Gln Tyr Glu Leu Ala Gly	Asn Lys Asn		
20	25	30	
Ala Met Ser Gln Gly Ile Ile Leu Leu Asn Ile Leu Ser	Phe Arg		
35	40	45	
Ile Asp Asn Val Gln Ile Phe Ser Leu Ile Val Tyr Met	Ile Phe Lys		
50	55	60	
Leu Met Met Met Val Ser Arg Phe Val Arg Val Arg Leu	Tyr Val Ser		
65	70	75	80
Leu Leu Leu His Arg Gly Ala			
85			

&lt;210&gt; 7659

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (401)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 7659

Leu Thr Cys Lys Cys Thr Val Pro Ser Ser Pro Val Val	Lys Thr Pro		
1	5	10	15
Ala Ala Phe Val Ala Ala Gln Asp Lys Gly Ile Ser Thr	Val Lys Asp		
20	25	30	
Gly Gln Thr Ala Val Gly Asn Thr Phe Asn Thr Asp	Thr Ala Lys Gln		
35	40	45	
Asp Ser Thr Pro Ala Leu Ser Lys Arg Glu Leu Arg Arg	Gln Arg Val		
50	55	60	
Ala Arg Arg Asn Leu His Tyr Asn Ile Leu Gly Gly	Pro Ser Tyr Thr		
65	70	75	80
Pro Asp Phe Gly Leu Leu Ile Gly Gly Ser Ala Leu Met	Thr Phe Arg		

85	90	95
Met Asn Pro Ser Asp Thr Thr Gln Gln Arg Ser Val Val Pro Val Ala		
100	105	110
Ile Ala Leu Met Phe Asn Gly Gly Leu Asn Leu Phe Ser Lys Pro Gln		
115	120	125
Leu Phe Phe Lys Gly Asp Arg Phe Arg Ile Phe Gly Gln Phe Ser Tyr		
130	135	140
Lys Asn Thr Gln Glu Asn Phe Tyr Gly Ile Gly Tyr Ser Thr Asn Lys		
145	150	155
Asp Tyr Val Arg Ser Asp Thr Thr Ser Gln Tyr Arg Tyr Ser Gly Leu		
165	170	175
Gln Ile Asn Pro Trp Phe Leu Phe Arg Leu Gly Glu Ser Asn Phe Phe		
180	185	190
Ala Gly Pro Gln Val Asp Leu Asn Tyr Asp His Met Tyr Asp Pro Ala		
195	200	205
Lys Tyr Leu Val Asp Gln Pro Ser Tyr Lys Ala Ala Gly Gly Thr Asp		
210	215	220
Lys Gly Tyr Lys Asn Phe Ser Ser Gly Val Gly Phe Leu Leu Thr Tyr		
225	230	235
Asp Thr Arg Asp Val Pro Ala Asn Ala Tyr Arg Gly Met Tyr Leu Asp		
245	250	255
Phe Arg Gly Met Met Tyr Gln Lys Phe Leu Gly Ser Asp Asn Asn Phe		
260	265	270
Tyr Arg Leu Glu Ile Asp Tyr Arg Gln Tyr Lys Thr Leu Arg Lys Arg		
275	280	285
Gly Val Leu Ala Trp Thr Ala Gln Thr Lys Asn Val Phe Gly Asp Val		
290	295	300
Pro Leu Asn Lys Tyr Ala Leu Ser Gly Thr Pro Phe Asp Leu Arg Gly		
305	310	315
Tyr Tyr Met Gly Gln Tyr Arg Asp Lys Ser Ser His Val Val Met Ala		
325	330	335
Glu Tyr Arg Gln Met Ile Asn Thr Asp Lys Gly Asn Trp Val Lys Arg		
340	345	350
Met Leu Asn His Val Gly Tyr Val Ala Trp Ala Gly Cys Gly Phe Met		
355	360	365
Gly Pro Asn Pro Gly Lys Ile Glu Gly Val Leu Pro Asn Met Gly Val		
370	375	380
Gly Leu Arg Ile Glu Val Gln Pro Arg Met Asn Val Arg Leu Asp Leu		
385	390	395
Xaa Arg Asn Met Val Asn Lys Gln Asn Leu Phe Tyr Phe Asn Met Thr		
405	410	415
Glu Ala Phe		

&lt;210&gt; 7660

&lt;211&gt; 293

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7660

Ile Ile Cys Asn Lys Met Gly Lys Ile Glu Ile Lys Lys Leu Ser		
1	5	10
Asp Phe Glu Ala Met Val Asn Ala Gly Asn Thr Thr Tyr Thr Gly Leu		
20	25	30
Val Glu Gly Ile Gly Tyr Val Tyr Trp Thr Thr Glu Thr Leu Tyr Phe		
35	40	45
Ile Arg Thr Asn Pro Glu Gln Leu Trp Ala Ile Pro Lys Tyr Gln Gln		
50	55	60
Ile Pro Phe Pro Tyr Phe Gln Arg Lys Asp Ala Ile Ile Glu Thr Lys		

65	70	75	80
Thr Leu His Thr Leu His Val Leu Ser Lys Asp Glu Leu Leu Lys Leu			
85	90	95	
Asp Tyr Asp Ala Tyr Tyr Ala Phe Tyr Gly Ile Val Glu Glu Met Leu			
100	105	110	
Lys Phe Ile His Arg Ala Asp Ala Ile Lys Ser Tyr Cys Glu Ile Pro			
115	120	125	
Leu Pro Ile Ile Lys Ser Lys Gly Ala Leu Lys Gly Asn Asp Ala Arg			
130	135	140	
Asn Gly Ile Leu Ser Leu Gly Ser Gln Ile Asn Asp Gln Ile Gly Ala			
145	150	155	160
Pro Leu Asp Ala Ala Asn Met Leu Met Asp Asn Lys His Ile Gly Lys			
165	170	175	
Ile Gly Asp Gly Leu Ser Leu Ile Ser Ile Ile Asp Glu Val Gly Asn			
180	185	190	
Gly Glu Tyr Trp Ser Ala Ala Gly Asp Ile Leu Leu Phe Ala Ala Gly			
195	200	205	
Lys Thr Lys Leu Ser Pro Tyr Met Thr Val Ile Ser Leu Gly Thr Trp			
210	215	220	
Met Tyr Glu Thr Asp Leu Met Gln Trp Arg Leu Ala Cys Ile Asn Tyr			
225	230	235	240
Ser Asp Tyr Lys Lys Thr Leu Ile Lys Tyr Arg Glu Leu Gln Lys Lys			
245	250	255	
Phe Glu Ser Gly Asp Lys Ser Val Glu Glu Lys Met Asn Glu Cys His			
260	265	270	
Lys Ile Leu Asn Ser His Tyr Ile Glu Met Gln Lys Asn Leu Gly Asn			
275	280	285	
Leu Gly Val Lys Phe			
290			

&lt;210&gt; 7661

&lt;211&gt; 584

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7661

Leu Gln Ile Asn Ser Glu His Phe Cys Tyr Leu Cys Ala Ile Asn Ile			
1	5	10	15
Asn Thr His Tyr Leu Tyr Met Ala Asp Asp Lys Lys Ile Ile Phe Ser			
20	25	30	
Met Val Gly Val Ser Lys Ala Phe Gln Pro Asn Lys Asn Val Leu Lys			
35	40	45	
Asp Ile Tyr Leu Ser Phe Phe Tyr Gly Ala Lys Ile Gly Ile Ile Gly			
50	55	60	
Leu Asn Gly Ser Gly Lys Ser Thr Leu Leu Lys Ile Ile Ala Gly Leu			
65	70	75	80
Glu Lys Ser Tyr Gln Gly Glu Val Val Phe Ser Pro Gly Tyr Ser Val			
85	90	95	
Gly Tyr Leu Ala Gln Glu Pro Tyr Leu Asp Asn Thr Lys Thr Val Lys			
100	105	110	
Glu Ile Val Met Glu Gly Val Gln Pro Ile Val Asp Ala Leu Asn Glu			
115	120	125	
Tyr Glu Glu Ile Asn Gln Lys Phe Gly Leu Pro Glu Tyr Tyr Glu Asp			
130	135	140	
Gln Asp Lys Met Asp Gln Leu Phe Ala Arg Gln Gly Glu Leu Gln Asp			
145	150	155	160
Ile Ile Asp Ala Thr Asp Ala Trp Asn Leu Asp Ser Lys Leu Glu Arg			
165	170	175	
Ala Met Asp Ala Leu Arg Cys Pro Pro Glu Asp Gln Ser Val Ala Asn			

180	185	190
Leu Ser Gly	Gly Glu Arg Arg	Val Ala Leu Cys
195	195	Arg Leu Leu
Gln Lys Pro Asp Ile	Leu Leu Asp Glu	Pro Thr Asn His
210	215	Leu Asp
Ala Glu Ser Ile Asp Trp	Leu Glu Gln His	Leu Gln Gln Tyr
225	230	Glu Gly
Thr Val Ile Ala Val Thr His	Asp Arg Tyr Phe	Leu Asp His Val
245	250	Ala
Gly Trp Ile Leu Glu	Leu Asp Arg Gly	Gly Ile Pro Trp Lys
260	265	Gly
Asn Tyr Ser Ser Trp	Leu Glu Gln Lys	Thr Lys Arg Met
275	280	Glu Met Glu
Glu Lys Thr Ala Ser Lys	Arg Arg Lys	Thr Leu Glu Arg
290	295	Glu Leu Glu
Trp Val Arg Met Ala	Pro Lys Ala Arg	Gln Ala Lys Gly
305	310	Lys Ala Arg
Leu Asn Ser Tyr Asp	Lys Leu Leu Asn	Glu Asp Val Lys
325	330	Glu Lys Glu
Glu Lys Leu Glu Ile	Phe Ile Pro Asn	Gly Pro Arg Leu
340	345	Gly Asn Lys
Val Ile Glu Ala Lys	His Val Ala Lys	Tyr Gly Asp Lys
355	360	Leu Leu
Phe Asp Asp Leu Asn	Phe Met Leu Pro	Pro Asn Gly Ile
370	375	Val Gly Val
Ile Gly Pro Asn Gly	Ala Gly Lys	Thr Thr Leu Phe
385	390	Arg Leu Ile Met
Gly Leu Glu Thr Val	Asp Lys Gly	Glu Val Gly
405	410	Glu Thr Val
Lys Val Ala Tyr Val	Asp Gln Gln His	Lys Asp Ile Asp
420	425	Pro Asn Lys
Ser Val Tyr Gln Val	Ile Ser Gly	Gly Asn Asp Leu
435	440	Ile Arg Met Gly
Gly Arg Asp Ile Asn Ala	Arg Ala Tyr	Leu Ser Arg Phe
450	455	Asn Phe Ser
Gly Ala Asp Gln Glu	Lys Leu Cys	Gly Val Leu Ser
465	470	Gly Glu Arg
Asn Arg Leu His	Leu Ala Met	Ala Leu Lys
485	490	Glu Glu Gly
Leu Leu Asp Glu	Pro Thr Asn Asp	Asn Val Leu
500	505	Arg Gly
Leu Glu Glu	Gly Leu Glu Asp	Asp Phe Ala
515	520	Gly Cys Ala Val
His Asp Arg Trp	Phe Leu Asp Arg	Val Val Ile Ser
530	535	Ile Cys Thr His Ile
Glu Gly Asp Ser Asn	Val Phe Tyr	Leu Ala Phe
545	550	Gly Ser Tyr Ser
Glu Glu Asn Lys	Leu Lys Arg	Glu Tyr Glu Tyr
565	570	555 560
Arg Tyr Arg Lys	Leu Ile Ala Asp	575
580		

&lt;210&gt; 7662

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7662

Lys Arg Ile Lys Gly Ser Ser Gln Thr Ser Met Lys Gln Ile Pro Pro

1	5	10	15
Leu Ile Ser Phe Ile Thr Ile Cys Tyr Asn Gly Leu Asp Asp Thr Cys			
20	25	30	
Val Leu Ile Glu Ser Leu Arg Asp Thr Ile Ser Ser Val Ser Tyr Glu			
35	40	45	
Ile Ile Val Val Asp Asn Ala Ser Arg Gln Asp Glu Ala Ser Leu Ile			
50	55	60	
Gln Glu Arg Tyr Pro Phe Val Arg Thr Leu Arg Ser Glu Lys Asn Leu			
65	70	75	80
Gly Phe Ser Gly Gly Asn Asn Leu Gly Ile Gln Ile Ala Gln Gly Lys			
85	90	95	
Tyr Leu Phe Leu Ile Asn Asn Asp Thr Tyr Leu Thr Glu Asp Gly Leu			
100	105	110	
Pro Ala Leu Ile Glu Arg Leu Glu Ser Asp Pro Arg Ile Gly Ala Val			
115	120	125	
Ser Pro Lys Ile Arg Phe Ala Phe Pro Pro Gln Asn Ile Gln Phe Ala			
130	135	140	
Gly Tyr Thr Lys Leu Ser Arg Tyr Thr Met Arg Asn Lys Ala Leu Gly			
145	150	155	160
Met Gly Cys Pro Asp Asp Gly Thr Phe Asp Thr Pro Arg Pro Ser Ala			
165	170	175	
Tyr Leu His Gly Ala Ala Leu Met Leu Lys Arg Glu Val Ile Trp Lys			
180	185	190	
Ala Gly Leu Met Pro Glu Ile Tyr Phe Leu Tyr Tyr Glu Glu Leu Asp			
195	200	205	
Trp Cys Thr Asn Met Thr Arg Ala Gly Tyr Gln Leu Trp Tyr Glu Pro			
210	215	220	
Arg Cys Thr Ile Phe His Lys Glu Ser Gln Ser Thr Gly Arg Gln Ser			
225	230	235	240
Pro Leu Arg Thr Phe Tyr Met Met Arg Asn Arg Met Leu Tyr Ala Trp			
245	250	255	
Arg Asn Leu Pro Gly Met Glu Arg Cys Leu Ala Ile Ala Tyr Gln Met			
260	265	270	
Leu Ile Val Ala Pro Lys Asp Ser Leu Cys Phe Val Leu Lys Gly Glu			
275	280	285	
Pro Lys Leu Ala Lys Ala Val Trp His Gly Val Lys Gly Phe Trp Lys			
290	295	300	
Leu Cys			
305			

&lt;210&gt; 7663

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7663

1	5	10	15
Arg Lys Gln Lys Asn Ser Asp Gly His Gln Ile Asn Lys Asn Ile Arg			
20	25	30	
Trp Met Gln Thr Tyr Leu Tyr Leu His Lys Glu Asn Ile Asp Leu Pro			
35	40	45	
His Gly Val Tyr Arg Gly Lys Tyr Pro Leu Lys His Phe Asp Tyr Gly			
50	55	60	
Leu Ser Arg Asn Val Gly Arg Lys Gly Glu Ile Thr Ser Gly Val Cys			
65	70	75	80
Gly Gly Glu Ile Arg Ile Val Ile Asp Gly Phe Ala Asp Ala Thr Leu			
85	90	95	
Leu Gly Trp Leu Phe Asp Thr Phe Arg Lys Glu Asp Gly Ala Ile Val			
Thr Leu Asp Glu His Glu Thr Thr Phe Ala Lys Leu Gln Phe Ser Gly			

100	105	110
Ala Ser Val Arg Ser Tyr Arg Met Asn Tyr Asp Ser Arg Val Lys Lys		
115	120	125
Gly Val Val Thr Ile Ile Val Ile Glu Ala Lys Glu Ile Val Thr Asp		
130	135	140
Asn Asp Leu Phe Phe Lys Asn Lys		
145	150	

&lt;210&gt; 7664

&lt;211&gt; 389

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7664

Glu Tyr Lys Asn Lys Thr Thr Tyr Tyr Met Ala Lys Lys Asn Leu Val		
1	5	10
Asn Trp Ser Asp Cys Met Pro Leu Ser Ala Ala Ile Phe Asn Gln His		
20	25	30
Asp Asp Tyr Phe Leu Asp Ser Ile Arg Asp Ser Ile Glu Val Arg Thr		
35	40	45
Asn Ser Tyr Asn Tyr Gly Leu Leu Pro Ala Arg Gln Asn Arg Asp Gly		
50	55	60
Glu Asn Gly Ile Arg Ile Ser Gln His Val Thr Gly His Ile Glu Val		
65	70	75
Arg Leu Lys Ser Cys Glu Ala Ile Thr Ser Ser Gly Ile Arg Ile Gln		
85	90	95
Phe Asp Ala Thr Glu Thr Gly Ser Glu Leu Val Lys Asn Tyr Ser Val		
100	105	110
Glu Ser Asp Thr Arg Lys Asn Ile Thr Gln Trp Asp Ile Ile Leu Ser		
115	120	125
Val Asp Pro Phe His Arg Val Gly Ser Gly Asp Pro Asn Pro Glu Glu		
130	135	140
Val Pro Pro Arg His Pro Asn Ala Leu Pro Ser Tyr Arg Leu Phe Val		
145	150	155
Met Pro Lys Gly Glu Ile Asn Val Ser Glu Leu Gly Ala His Tyr Leu		
165	170	175
Thr Ile Gly Arg Ile Arg Lys Asp Ala Glu Arg Phe Met Val Asp Ala		
180	185	190
Asp Phe Ile Pro Pro Cys Thr Thr Met Lys Ser His Pro Glu Leu Gln		
195	200	205
Glu Tyr His Ala Lys Phe Gly Asn Met Phe Arg Ser Leu Glu Asn Tyr		
210	215	220
Ser Lys Ile Ile Ile Ala Lys Ile His Asn Arg Asp Asn Arg Gly Glu		
225	230	235
Leu Gly Ala His Ile Ser Leu Ile Cys Arg Glu Met Leu Arg Tyr Leu		
245	250	255
Ala Thr Leu Gln Phe Thr Tyr Thr Asn Lys Gly Leu Tyr Asn Ala Pro		
260	265	270
Ile Asp Val Leu Glu Ala Val Ser Ser Leu Ala His Ile Met Tyr Val		
275	280	285
Ser Phe Ser Tyr Leu Ser Gly Thr Gln Lys Glu Glu Thr Gln Lys Tyr		
290	295	300
Phe Tyr Glu Trp Ser Asp Val Thr Pro Gly Ser Phe Asp Glu Gln Leu		
305	310	315
Ala Asp Thr Leu Glu Met Leu Tyr Glu His Thr Asp Ile Arg Ala Ser		
325	330	335
Met Val Arg Ala Tyr Ser Phe Met Tyr Thr Leu Thr Glu Leu Trp Gln		
340	345	350
Arg Leu Ser Thr Leu Glu Tyr Ile Gly Gln His Lys Glu Asn Ile Val		

355	360	365
Val Ser Glu Arg Thr Thr Gly Asn Asn Thr Thr Gly Gln Asn Lys Thr		
370	375	380
Trp Ser Ile Met Asp		
385		

&lt;210&gt; 7665

&lt;211&gt; 408

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7665

Pro Ile Met Asn Asn Thr Ile Thr Thr Trp Leu Glu Ile Leu Phe Trp			
1	5	10	15
Leu Ser Leu Phe Leu Val Phe Tyr Thr His Leu Gly Tyr Gly Ile Leu			
20	25	30	
Leu Tyr Met Leu Val Lys Leu Lys Glu Leu Phe Val Lys Pro Val Arg			
35	40	45	
Arg Gln Leu Pro Pro Asp Lys Arg Leu Pro Asp Val Thr Leu Phe Ile			
50	55	60	
Thr Ala Phe Asn Glu Glu Val Val Asp Glu Lys Met Arg Asn Cys			
65	70	75	80
Leu Gly Leu Asp Tyr Pro Ala Asp Lys Leu His Ile Val Trp Thr Thr			
85	90	95	
Asp Gly Ser Asn Asp Ser Thr Asn Gln Arg Leu Glu Asp Trp Pro Gln			
100	105	110	
Ala Thr Val His Phe Gln Pro Leu Arg Gln Gly Lys Thr Ala Ala Met			
115	120	125	
Thr Arg Gly Met Met Leu Val Asp Thr Pro Leu Val Val Phe Thr Asp			
130	135	140	
Ala Asn Thr Met Leu Asn Arg Glu Ala Ile Arg Glu Ile Val Arg Ala			
145	150	155	160
Phe Glu Asp Pro Lys Val Gly Cys Val Ala Gly Glu Lys Arg Ile Ala			
165	170	175	
Val Gln Glu Lys Asp Gly Ala Ala Gly Gly Glu Gly Ile Tyr Trp			
180	185	190	
Lys Tyr Glu Ser Thr Leu Lys Ala Leu Asp Ala Arg Leu Tyr Ser Ala			
195	200	205	
Val Gly Ala Ala Gly Glu Leu Phe Ala Val Arg Arg Glu Leu Phe Thr			
210	215	220	
Val Met Glu Pro Asp Thr Leu Leu Asp Asp Phe Ile Leu Ser Leu Arg			
225	230	235	240
Ile Ala Met Gln Gly Tyr Lys Ile Ala Tyr Cys Thr Gln Ala Tyr Ala			
245	250	255	
Ile Glu Ser Gly Ser Ala Asp Met Arg Glu Glu Gln Lys Arg Lys Val			
260	265	270	
Arg Ile Ala Ala Gly Gly Leu Gln Ser Ile Trp Arg Leu Arg Glu Leu			
275	280	285	
Leu Asn Pro Phe Arg Tyr Gly Val Leu Thr Phe Gln Tyr Val Ser His			
290	295	300	
Arg Val Leu Arg Trp Ser Leu Ala Pro Val Leu Leu Phe Ala Leu Leu			
305	310	315	320
Pro Leu Asn Ile Ala Ile Leu Leu Ala Gly Gly Ser Pro Val Cys Tyr			
325	330	335	
Gly Thr Ile Leu Ala Leu Gln Leu Leu Phe Tyr Ile Met Gly Gly Trp			
340	345	350	
Gly Tyr Tyr Leu Ser Thr Arg Gln Val Lys Asn Lys Leu Leu Phe Ile			
355	360	365	
Pro Tyr Tyr Phe Leu Phe Met Asn Ile Asn Val Met Lys Gly Val Asn			

370	375	380
Tyr Leu Arg Lys Lys Gly Thr Gly Ala Trp Glu Lys Ala Lys Arg		
385	390	395
Thr Lys Thr Glu Ser Leu Asn Gln		400
	405	

&lt;210&gt; 7666

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7666

Met Ile Met Lys Lys Phe Leu Phe Ile Leu Thr Val Ile Thr Cys Phe			
1	5	10	15
Phe Ala Ser Ser Val Glu Ala Arg Arg Val Arg Phe Thr Ile Pro Val			
20	25	30	
Asp Asn Ser Ile Pro Lys Val Val Thr Leu Pro Asp Ser Ser Tyr Tyr			
35	40	45	
Lys Thr Asp Glu Gly Ser His Leu Asp Leu Gly Tyr Ile Glu Glu Asp			
50	55	60	
Gly Lys Arg Thr Leu Val Leu Phe Ser Glu Ser Lys Pro Asp Thr Tyr			
65	70	75	80
Tyr Asp Ile Ser Asp Glu Tyr Ala Glu Ala Ile Cys Arg Asp Leu Asn			
85	90	95	
Val Glu Glu Leu Asp Thr Leu Ile Pro Lys Pro Thr Phe Trp Asp Gln			
100	105	110	
Trp Gly Gly Ser Ile Leu Phe Tyr Gly Ile Ala Ala Leu Val Val Ile			
115	120	125	
Gly Val Val Ser Tyr Leu Lys Asp Phe Ile Phe Asn Leu Leu Gly Leu			
130	135	140	
Ser Lys Lys Lys Glu Glu Glu Glu			
145	150		

&lt;210&gt; 7667

&lt;211&gt; 150

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7667

Ile Leu Trp Lys Met Lys Gln Lys Tyr Tyr Lys Leu Pro Val Arg Leu			
1	5	10	15
Glu Lys Leu Phe Glu Gly Asp Ile Arg Gln Leu Glu Arg Cys Ser Glu			
20	25	30	
Leu Glu Ser Ile Asp Gln His Ile Glu Leu Leu Thr Thr Cys Pro			
35	40	45	
Gly Glu His Arg Phe Asp Pro Lys Tyr Gly Cys Arg Ile Trp Glu Leu			
50	55	60	
Asp Phe Glu Arg Ile Val Ser Thr Glu Gln Trp Lys Glu Leu Phe Thr			
65	70	75	80
Gly Tyr Val Met Gln Ala Ile Ser Thr Tyr Glu Lys Arg Ile Ser Asp			
85	90	95	
Ile Thr Leu Ser Val Asn Leu Gln Glu Val Val Arg Glu Glu Val Leu			
100	105	110	
Asp Asn Arg Met Ile Arg Lys Arg Val Asp Ile Thr Val Leu Ala Thr			
115	120	125	
Leu Asn Ser Thr Gly Ala Pro Cys Gly Phe Gly Tyr Lys Leu Tyr Met			
130	135	140	
Gly Pro Leu Ser Asn Glu			
145	150		

&lt;210&gt; 7668

&lt;211&gt; 132

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7668

Leu	Ile	Asn	Asp	Asn	Ser	Met	Asp	Lys	Asp	Ile	Ile	Val	Ala	Glu	Asp
1						5				10				15	
Glu	Asp	Val	Lys	Ile	Ile	Phe	His	Phe	Lys	Val	Phe	Cys	Glu	Leu	Leu
						20				25			30		
Lys	Glu	Cys	Met	Ser	Ile	Tyr	Gly	Asn	Thr	Thr	Ile	Glu	Asn	Ala	Gln
						35				40			45		
Gln	Leu	Val	Lys	Asn	Phe	His	Pro	Leu	Gln	Gln	Pro	Ile	Ser	Thr	Thr
						50				55			60		
Asp	Asp	Ile	Val	Phe	Phe	Ser	His	Glu	Asn	Ile	Tyr	His	Trp	Ala	Met
						65				70			75		80
Leu	Ala	Leu	Tyr	Gly	Glu	Thr	Tyr	Trp	Leu	Ile	His	Pro	Glu	Cys	Glu
						85				90			95		
Lys	Leu	Pro	Asp	Ser	Tyr	Glu	Lys	Trp	Val	Glu	Asn	Ala	Leu	Ser	Arg
						100				105			110		
His	Ser	Leu	Asp	Asp	Cys	Tyr	Glu	Phe	Met	Ser	Lys	Asn	Asn	Asn	Val
						115				120			125		
Thr	Asn	Lys	Ala												
						130									

&lt;210&gt; 7669

&lt;211&gt; 437

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7669

Asp	Ser	Ala	Glu	Met	Ile	Leu	Cys	Val	Ile	Cys	Gly	Glu	Pro	Gln	Leu
1						5				10				15	
Asn	Arg	Phe	Thr	Gln	Ile	Tyr	Arg	Pro	Ile	Thr	Tyr	Ile	Lys	Thr	Tyr
						20				25			30		
Asp	Thr	His	Leu	Ser	Leu	Val	Asp	Trp	Ile	Leu	Phe	Val	Pro	Leu	Ala
						35				40			45		
Leu	Cys	Val	Ala	Tyr	Leu	Leu	Val	Tyr	Ala	Ile	Ala	Ser	Lys	Phe	Tyr
						50				55			60		
Arg	Ala	Pro	His	Tyr	Pro	Glu	Ala	Asp	Lys	Leu	His	Arg	Ile	Ala	Val
						65				70			75		80
Phe	Phe	Pro	Ala	Tyr	Arg	Glu	Asp	Lys	Val	Ile	Ile	Asp	Ser	Val	Arg
						85				90			95		
Ser	Phe	Leu	Glu	Gln	Asp	Tyr	Pro	Lys	Glu	Met	Tyr	Asp	Val	Tyr	Val
						100				105			110		
Ile	Ser	Asp	His	Met	Gln	Asp	Ser	Thr	Asn	Lys	Ala	Leu	Ser	Arg	Leu
						115				120			125		
Pro	Ile	Arg	Leu	Leu	Val	Ala	Thr	Tyr	Glu	Asp	Ser	Ser	Lys	Ala	Lys
						130				135			140		
Ala	Leu	Leu	Leu	Ala	Ile	Ser	Thr	Ile	Glu	Glu	Asp	Gly	Lys	Ala	Lys
						145				150			155		160
Gly	Leu	Gly	Asn	Arg	Gln	Leu	Ala	Phe	Met	Tyr	Asp	Ile	Ala	Val	Val
						165				170			175		
Met	Asp	Ala	Asp	Asn	Val	Thr	Val	Pro	Gly	Phe	Leu	Ser	Glu	Val	Asn
						180				185			190		
Arg	Ala	Tyr	Ser	Ala	Gly	Val	Gln	Ala	Met	Gln	Ala	His	Arg	Thr	Gly
						195				200			205		
Lys	Asn	Leu	Asn	Thr	Asp	Ile	Ala	Leu	Leu	Asp	Gly	Val	Ser	Glu	Glu

400 7669  
437  
PRT  
B.fragilis

210	215	220
Ile Asn Asn Gly Phe Phe Arg Ser Gly His Asn Ala Leu Gly Leu Ser		
225	230	235
Ala Gly Leu Ala Gly Ser Gly Met Ala Phe Asp Tyr Phe Trp Tyr Tyr		240
245	250	255
Asp Ala Val Gln Ser Leu Glu Thr Ala Gly Glu Asp Lys Glu Leu Glu		
260	265	270
Leu Thr Leu Leu Glu Cys Gly Met His Thr Val Tyr Leu Glu His Leu		
275	280	285
Pro Val Tyr Asp Glu Lys Thr Gln Lys Lys Glu Asn Ile Lys Asn Gln		
290	295	300
Arg Arg Arg Trp Met Ala Ala Gln Phe Gly Ile Leu Cys Glu Gly Leu		
305	310	315
Ser Phe Ile Lys Ser Val Lys Gln Met Glu Gly Trp Trp Arg Trp Trp		320
325	330	335
Pro Ser Phe Asp Leu Val Asp Lys Ile Ile Gln Trp Met Leu Pro Pro		
340	345	350
Arg Leu Val Gln Leu Val Ala Val Phe Gly Phe Thr Leu Leu Ala Thr		
355	360	365
Leu Val Tyr Arg Pro Ala Ala Ser Lys Trp Trp Ile Leu Ser Val Ala		
370	375	380
Gln Val Ala Ala Met Phe Ile Pro Val Pro Ala Arg Leu Leu Asn Gly		
385	390	395
Arg Leu Leu Lys Ala Leu Met Gln Val Pro Ser Leu Ala Leu Gly Thr		400
405	410	415
Ile Ala Ser Leu Phe His Leu Lys Gly Ala Asn Lys Lys Phe Ile His		
420	425	430
Thr Glu His Gly Glu		
435		

&lt;210&gt; 7670

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7670

Glu	Glu	Lys	Leu	Gly	Lys	Thr	Tyr	Lys	Thr	Ile	Gln	Asp	Lys	Lys	Gly
1			5			10			15						
Gln	Asp	Lys	Thr	Glu	Thr	Ile	Glu	Lys	Lys	Arg	Lys	Pro	Ala	Asp	Val
	20				25				30						
Pro	Ala	Ala	Val	Val	Ala	Ala	Thr	Ile	Gly	Met	Ala	Glu	Val	Ser	Gly
	35				40				45						
Ile	Ala	Asn	Ala	Pro	Ile	Ala	Ala	Phe	Ala	Val	Pro	Ala	Ala	Pro	Ser
	50				55				60						
Ser	Gly	Arg	Arg	Lys	Gly	Tyr	Phe	Arg	Tyr	Val	Arg	Met	Arg	Val	Gly
	65				70				75			80			
Arg	His	Trp	Trp	Thr	Lys	Tyr	Lys	Pro	Thr	Val	Ser	Gly			
	85				90										

&lt;210&gt; 7671

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7671

Ser	Lys	His	Cys	Pro	Val	Ile	Asn	Val	Phe	Val	Arg	Lys	Glu	Asn	Asn
1				5			10			15					
Ile	Ile	Ser	Ser	Ala	Tyr	Trp	Leu	Leu	Glu	Arg	Met	Lys	Val	Phe	Asn
	20					25				30					

Gln Leu Leu Cys Ile Leu Tyr Gly Ser Ile Ser Ile Tyr Arg His Ala  
     35                40                45  
 Leu Phe Gln Glu Phe Ala Lys His Phe Glu Met Lys Asp Asp Phe Asn  
     50                55                60  
 Ile Phe Ile Leu Cys Tyr Tyr Asn Val Phe Ile His Ala Val Ile Ile  
     65                70                75                80  
 Tyr Lys Leu Phe Gln Val Val Thr Asn Val Phe Asn Asn His Thr Leu  
     85                90                95  
 Trp Cys Ser Ser  
     100

&lt;210&gt; 7672

&lt;211&gt; 467

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7672

Arg Lys Ala Cys Leu Thr Gly Lys Arg Thr Val Glu Arg Ser Arg Lys  
     1                5                10                15  
 Ile Leu Thr Met Thr Met Asn Asp Glu Leu Gln Lys Lys Arg Asp  
     20                25                30  
 Pro Asp Gln Ser Glu Ile Ala Phe Tyr Leu Leu Phe Ser Val Gln Leu  
     35                40                45  
 Val Leu Ile Ala Ile Gly Ile Phe Val Pro Ile Arg Met Gly Val Thr  
     50                55                60  
 Thr Leu Pro Leu Val Ile Ala Leu Ser Met Ile Thr Leu Met Arg Cys  
     65                70                75                80  
 Thr Gly Gln Glu Thr Asp Trp Lys Arg Gly Gln Asn Val Met Phe Gly  
     85                90                95  
 Leu Phe Met Val Trp Gly Ala Tyr Cys Leu Phe Glu Ile Gly Asn Pro  
     100               105               110  
 Asn His Val Gln Ala Ala Trp Asn Ile Ala Ile Thr His Tyr Trp Val  
     115               120               125  
 Tyr Pro Leu Val Phe Ala Phe Val Val Pro Leu Ala Ile Arg Asn Tyr  
     130               135               140  
 Lys Gly Ile Glu Trp Leu Leu Ile Trp Ser Val Phe Val Leu Ile  
     145               150               155               160  
 Ala Ala Phe Lys Gly Tyr Trp Gln Lys Ser His Gly Phe Asn Ala Lys  
     165               170               175  
 Glu Leu Tyr Phe Leu Tyr Thr Leu Gly Gly Tyr Arg Thr His Leu Ile  
     180               185               190  
 Trp Ser Gly Ile Arg Tyr Phe Ser Cys Phe Pro Asp Ala Ala Asn Phe  
     195               200               205  
 Gly Val His Ser Ala Met Ala Val Thr Thr Phe Gly Ile Ala Thr Phe  
     210               215               220  
 Tyr Val Arg Lys Arg Trp Met Lys Val Tyr Phe Ala Ile Ile Ala Ile  
     225               230               235               240  
 Cys Ala Ile Tyr Gly Met Gly Ile Ser Gly Thr Arg Ala Ala Met Ala  
     245               250               255  
 Val Pro Phe Gly Gly Ile Ala Leu Phe Ile Leu Val Ser Lys Ser Trp  
     260               265               270  
 Lys Ser Phe Ala Phe Ser Thr Leu Ala Phe Ile Ala Val Phe Ser Phe  
     275               280               285  
 Phe Asn Phe Thr Thr Ile Gly Asp Gly Asn Gln Tyr Ile Arg Lys Met  
     290               295               300  
 Arg Ser Ala Phe Arg Pro Ser Glu Asp Ala Ser Tyr Gln Val Arg Val  
     305               310               315               320  
 Glu Asn Arg Lys Lys Met Lys Gly Leu Met Asp Glu Lys Pro Ile Gly  
     325               330               335